

BACTERIOLOGICAL NEWS

Society of American Bacteriologists

OFFICE OF THE
SECRETARY

DEPARTMENT OF BACTERIOLOGY
UNIVERSITY OF WISCONSIN
MADISON, WIS.

VOLUME 25

January, 1959

NUMBER 1

1959 OFFICERS AND COUNCILORS

<i>President:</i>	P. R. EDWARDS, Communicable Disease Center, Chamblee, Ga.
<i>Vice-President:</i>	C. A. EVANS, University of Washington, Seattle, Wash.
<i>Secretary:</i>	E. M. FOSTER, University of Wisconsin, Madison 6, Wis.
<i>Treasurer:</i>	J. H. BAILEY, Sterling-Winthrop Research Institute, Rensselaer, N. Y.
<i>Business Manager:</i>	F. C. HARWOOD, Mt. Royal and Guilford Avenues, Baltimore 2, Md.
<i>Councilors-at-Large:</i>	MARGARET PITTMAN, National Institutes of Health, Bethesda, Md.
	ORVILLE WYSS, University of Texas, Austin, Tex.
	H. L. BODILY, California Health Department, Berkeley, Cal.
	S. F. CARSON, Oak Ridge National Laboratory, Oak Ridge, Tenn.

Councilors Elected by Local Branches:

J. J. Reid, University Park, Pennsylvania	<i>Allegheny</i>
M. P. Starr, Davis, California	<i>Northern California-Hawaii</i>
M. D. Appleman, Los Angeles, California	<i>Southern California</i>
J. L. Tong, Denver, Colorado	<i>Colorado-New Mexico-Wyoming</i>
E. K. Borman, Hartford, Connecticut	<i>Connecticut Valley</i>
W. R. Hoffert, Miami, Florida	<i>South Florida</i>
J. B. Evans, Chicago, Illinois	<i>Illinois</i>
J. M. McGuire, Indianapolis, Indiana	<i>Indiana</i>
D. H. Larsen, Provo, Utah	<i>Intermountain</i>
G. E. Stapleton, Oak Ridge, Tennessee	<i>Kentucky-Tennessee</i>
R. J. Allgeier, Catonsville, Maryland	<i>Maryland</i>
Philipp Gerhardt, Ann Arbor, Michigan	<i>Michigan</i>
H. A. Hoffman, St. Louis, Missouri	<i>Eastern Missouri</i>
C. E. Georgi, Lincoln, Nebraska	<i>Missouri Valley</i>
David Hendlin, Rahway, New Jersey	<i>New Jersey</i>
H. B. Naylor, Ithaca, New York	<i>Central New York</i>
H. L. Ehrlich, Troy, New York	<i>Eastern New York</i>
Beatrice Seegal, New York, New York	<i>New York City</i>
J. L. Etchells, Raleigh, North Carolina	<i>North Carolina</i>
F. E. Nelson, Ames, Iowa	<i>North Central</i>
J. H. Hanks, Boston, Massachusetts	<i>Northeast</i>
V. A. Cherrington, Moscow, Idaho	<i>Northwest</i>
F. J. Murray, Cincinnati, Ohio	<i>Ohio</i>
Ruth Miller, Philadelphia, Pennsylvania	<i>Eastern Pennsylvania</i>
Joaquim Travassos, Rio de Janeiro, Brazil	<i>Rio de Janeiro</i>
R. J. Bienvenue, Natchitoches, Louisiana	<i>South Central</i>
John W. Foster, Athens, Georgia	<i>Southeastern</i>
V. T. Schuhardt, Austin, Texas	<i>Texas</i>
A. E. Feller, Charlottesville, Virginia	<i>Virginia</i>
R. P. Tittler, Washington, D. C.	<i>Washington, D. C.</i>

Council Policy Committee:

	P. R. Edwards, <i>Chairman</i>	E. M. Foster, <i>Secretary</i>	
Harry Eagle	J. H. Bailey	J. R. Porter	C. A. Evans
Orville Wyss (1961)	J. H. Hanks (1959)	C. F. Niven, Jr. (1960)	

Invited Members (Nonvoting):

J. R. Porter, Editor-in-Chief, JOURNAL OF BACTERIOLOGY; Henry Scherp, Editor-in-Chief, BACTERIOLOGICAL REVIEWS; H. B. Woodruff, Editor-in-Chief, APPLIED MICROBIOLOGY; R. D. Housewright, Chairman of the Program Committee; M. J. Foter, Director of the Employment Bureau; Brooks D. Church, Chairman of the Division of General Bacteriology; Irving Gordon, Chairman of the Division of Medical Bacteriology, Immunology and Comparative Pathology; Harry E. Goresline, Chairman of the Division of Agricultural and Industrial Bacteriology; M. I. Dolin, Chairman of the Division of Bacterial Physiology.

**Make Your Plans Now To Attend The
FIFTY-NINTH ANNUAL MEETING, SOCIETY OF AMERICAN BACTERIOLOGISTS**

Sheraton-Jefferson and Statler Hotels, St. Louis, Missouri

May 10 through 14, 1959

General arrangements for our 1959 meeting were described in the November, 1958, issue of *Bacteriological News*. Now our hosts, the Eastern Missouri Branch, have announced more details.

Hotel Room Reservations

Room reservation forms are enclosed with this issue of the *News*. The completed form should be forwarded directly to the **Convention Reservation Bureau, 911 Locust Street, St. Louis 1, Missouri**.

Special facilities for graduate students. Dormitory-type rooms, mostly for four individuals, are available for graduate students at the Statler and Lennox Hotels at \$3.50 and \$3.75 respectively per person per day. (These rates apply only in rooms that are filled.) Students interested in these accommodations should apply directly to **Lt. Col. Elmer F. Chaffee, Fifth U.S. Army Medical Laboratory, 12th and Spruce Streets, St. Louis 2, Missouri** not later than April 1, 1959. Students who wish to room together should submit their requests for reservations in the same envelope. The requests must state the date and hour of arrival, since reservations cannot be held beyond the stated time, and **must be accompanied by a letter on department stationery from each student's major professor or department chairman** certifying that the applicant is a *bona fide* student.

Registration

The registration desk will be located in the lobby of the Sheraton-Jefferson and will be open at the following times:

Saturday, May 9 2:00 p.m. to 9:00 p.m.
Sunday, May 10 9:00 a.m. to 9:00 p.m.
Monday through
Wednesday, May
11-13 8:00 a.m. to 12:00;
1:00 p.m. to 4:00 p.m.
Thursday, May 14 9:00 a.m. to 12:00

Members bearing membership cards and non-members will be registered with the least possible delay. Members without cards must have their membership verified at a special desk. To avoid delay in registration **bring your membership card to the meeting**. Only persons who have paid their 1959 dues will be allowed to register at member rates.

Registration fees at the St. Louis meeting will be:

Package deal (including banquet ticket and registration fee, available at time of registration only)

Members	\$12.00
Non-members	15.00
Graduate students	8.00
Visiting wives or husbands when registered with spouse	8.00

Single fees (when purchased separately)

Member registration	\$ 6.00
Non-member registration	9.00
(Including <i>Bacteriological Proceedings</i>)	
Graduate student registration	2.00
Visiting wives or husbands registration	2.00
(When registered with spouse)	
Banquet ticket	7.50
(The cost of the banquet ticket includes a floor show and an evening of dancing.)	

To qualify for the reduced registration rate each graduate student must have a statement on department stationery from his major professor or department chairman worded as follows:

This will certify that _____
is a graduate student in this department and
qualifies for registration as a student at the 1959
meeting of the S.A.B.

Signature of Professor or Chairman

Signature of Student

Commercial Exhibits

Either of the following will be glad to furnish information on the facilities for Commercial Exhibits: **Dr. Philip L. Varney, 6 Monacella Court, Florissant, Missouri, Chairman of the Commercial Exhibits Committee**, or **Mr. Michael I. O'Connor, The Williams and Wilkins Co., 428 E. Preston St., Baltimore 2, Maryland, the Exhibit Manager**.

Scientific Exhibits

Any person or institution interested in arrangements for a scientific exhibit should contact **Lt. Col. Albert Leibovitz, Fifth U. S. Army Medical Laboratory, 12th and Spruce Streets, St. Louis 2, Missouri**.

Round Table Sessions

Rooms will be available for groups desiring to hold round tables, seminars, and other meetings or conferences not scheduled in the program. These rooms may be reserved by writing **Dr. William A. Hardwick, Jr., Anheuser-Busch, Inc., 721 Pestalozzi Street, St. Louis 18, Missouri**. The request should include the name of the convener

or group leader, the subject or group title, the preferred time, estimated attendance, and the type of projection equipment, if any, to be required. Applications that cannot be made before April 21 should be made at the Information Desk. A schedule of such meetings will be posted at the Information Desk.

Special Meals Committee

The Special Meals Committee will make an effort to fulfill each request for a special breakfast, luncheon, dinner, or cocktail party, and will furnish private rooms, desirable menus, etc. The approximate minimum prices for special meals including tax and gratuity at the Sheraton-Jefferson and Statler Hotels are: breakfast—\$2.50, luncheon—\$3.50, and dinner—\$4.75. The Special Meals Committee will appreciate your final reservations by February 1, 1959 so announcements can be included in the official program. Correspondence regarding special eating functions should be addressed directly to Dr. Edith M. Rich, St. Louis City Hospital, 1430 Carroll Street, St. Louis 4, Missouri.

Highlights

The first General Session featuring an outstanding speaker is scheduled for Sunday evening at the Sheraton-Jefferson Hotel. The annual informal Smoker will follow the general meeting.

The President's Reception and Banquet will be

held at the Sheraton-Jefferson on Tuesday evening, May 12, at which time the National Officers and the Eli Lilly Award winner will be presented. Included in the cost of the banquet ticket will be an outstanding floor show and an evening of dancing to the music of a big-name band.

The Graduate Student Mixer is planned for 5:00 to 7:00 p.m., Monday, May 11, in the Missouri Room of the Statler Hotel. Plenty of sandwiches, refreshments, and good music for dancing will be available.

The Hostess Committee has reserved the North Room on the mezzanine of the Sheraton-Jefferson Hotel as headquarters and lounge for the ladies. Wives of delegates are invited to use this lounge as headquarters and as a place to meet old friends and make new ones.

General correspondence concerning arrangements for the meeting other than those specifically mentioned above may be addressed to the General Chairman, Dr. Nicholas D. Duffett, 32 Municipal Courts Bldg., St. Louis 3, Missouri.

The 1959 meeting should be one of the finest we've ever had. The Eastern Missouri Branch has been working on the arrangements for several years and all indications point to an interesting and fruitful convention. Start making your plans to spend May 10 to 14 in St. Louis. Return your hotel room reservation request now before the best rooms are gone. And see your April, 1959, *Bacteriological News* for final details.

SOCIETY AFFAIRS

SOCIETY OFFICERS, 1959

The Committee of Tellers appointed by President Eagle to count the votes in the November, 1958, election consisted of Paul H. Hardy, Chairman, Sol H. Goodgal, Ellen Nell and Mary Ruth Smith. The votes were counted early in December, 1958, and the following individuals were elected to office for terms beginning January 1, 1959: *President*, P. R. Edwards; *Vice-President*, C. A. Evans, *Secretary*, E. M. Foster; *Treasurer*, John Hays Bailey; *Councilors-at-Large*, H. L. Bodily and S. F. Carson. Dr. R. E. Buchanan was elected to Honorary Membership.

The tally of votes for the individual nominees follows:

<i>President:</i>	
P. R. Edwards	
Yes.....	2116
No.....	15
<i>Vice-President:</i>	
C. A. Evans.....	1172
J. H. Hanks.....	931

<i>Secretary:</i>	
E. M. Foster	
Yes.....	2102
No.....	17
<i>Treasurer:</i>	
John Hays Bailey	
Yes.....	2098
No.....	19
<i>Councilor-at-Large:</i>	
H. L. Bodily.....	831
A. F. Borg.....	702
S. F. Carson.....	938
W. C. Haynes.....	802
T. F. Paine.....	822
<i>Honorary Membership:</i>	
R. E. Buchanan	
Yes.....	2105
No.....	14
The Council has elected Orville Wyss to the Council Policy Committee to serve from January 1, 1959 to December 31, 1961. Dr. Wyss thus replaces Dr. K. B. Raper, whose term on the C.P.C. expired December 31, 1958.	

CONSTITUTIONAL AMENDMENTS APPROVED

The changes in the Society's Constitution proposed at the business meeting during our 1958 Annual Meeting were approved overwhelmingly in the mail vote by the membership last September. The Tellers Committee appointed by President Eagle consisted of Maurice E. Becker, Chairman, Jean Heath Coney, William Johnson, J. M. Joseph, and Elizabeth Petran. According to the committee's report all propositions carried by margins of 88 to 99 per cent, well above the two-thirds majority required for modifying the Constitution. Therefore the changes are now in effect and members' copies of the Constitution should be corrected in accordance with the proposals that were sent out with the ballots.

THE AMERICAN TYPE CULTURE COLLECTION

The suggestion for this article came initially from former S.A.B. President Perry Wilson, who offered the thought that many newer members of the Society might be unfamiliar with the workings of the ATCC. Even the senior members might have forgotten that the Society helped to launch this organization some 30 years ago, and still takes a more than nominal parental interest in it.

This would seem to call for an article mainly historical, supplemented with some details of the organization's current operations. The difficulty with that approach is that the history of the ATCC has been told previously in publications of this Society and other literature accessible to all who are interested enough to read it, most recently in the 6th edition of the ATCC catalog of cultures, now available at one dollar per copy, postpaid. Furthermore, *Bacteriological News*, which your Secretary implies few people read, carried a detailed report from the Society's representatives on the ATCC Board of Trustees in the August, 1958 issue. The suspicion grows that the readership of the *News* may be getting a little tired of the ATCC, as of an overdone commercial.

The Society has, however, a direct financial interest in the Collection this year—it contributed \$3,000 toward the publication of the 1958 catalog. This is less than half the total cost of compiling, printing and distributing it, but figures out to a contribution of 60 cents per member. Something must be done to requite this obligation.

It seems appropriate, therefore, to recite just enough ATCC history to give perspective, to add a few details to the account of current operations as reported in the August *News*, then from the vantage point of 8 years' experience as Curator of the Collection to essay a forecast of what the Collection's future ought to bring forth.

As has often been stated, the formal conception

of the ATCC occurred in 1924 by action of a special committee of the National Research Council, on which H. J. Nichols and L. A. Rogers represented the S.A.B. Also participating in that action were F. P. Gay, representing the American Association of Pathologists and Bacteriologists and C. L. Shear, of the American Phytopathological Society. The Committee proposed the establishment of an agency "to preserve cultures of microorganisms that have historic and scientific interest and to provide a center for obtaining cultures needed in education and research." With the aid of a grant of \$24,000 from the Rockefeller Foundation, the new agency began operations at the McCormick Institute for Infectious Diseases, in Chicago, early in 1925. It remained there for 12 years, finally attaining a staff of a curator, one assistant, and a clerk to care for the collection of about 2000 kinds of microorganisms and the business of supplying about 3000 cultures a year. As the McCormick Institute was then no longer able to sustain it physically, the Collection was moved to Georgetown University in Washington in 1937.

The original financial grant had by this time (and not unsurprisingly) about run out, notwithstanding annual or sometimes only intermittent additions of a few hundred dollars from commercial firms and from this Society. Though the culture supplying service was expected to be financially self-supporting, the Collection as a whole could hardly remain so because the rate of acquisition of potentially important strains always tends to exceed the contemporary demand for cultures. The effort was creditably maintained for 10 years more, however, but then with the dislocations of World War II past and a boom in industrial microbiology emerging, it seemed time to put the Collection on a more secure basis. Accordingly, it was incorporated as a nonprofit organization and it moved to independent quarters, which were initially provided from funds contributed by commercial firms through solicitation by a committee of the National Research Council. It also received, for several years, sustaining grants from UNESCO. The special qualifications of the ATCC for conducting taxonomic studies on microorganisms received recognition from the U. S. Public Health Service in the award of a research grant which enabled the then Curator, Dr. Ruth Gordon, to collaborate with N. R. Smith and F. E. Clark in producing their excellent monograph on the aerobic sporeformers.

These events set the Collection on a course of material and scientific progress which is still ascending. The establishment of a Viral and Rickettsial Registry in 1950 was a notable gain in both respects. A research project on the collection and classification of bacteriophages, supported first

by the National Science Foundation and later by the National Institutes of Health, places the ATCC in front rank in this country, perhaps in the world, in this study. Another grant from NIH is now enabling the Collection to expand its Virus Registry and, with the aid of an advisory committee of 7 prominent virologists, to make its virus catalog the most authoritative compendium of virus strain descriptions anywhere available.

What of the future?

The experience of the ATCC for more than 30 years, despite some intervals of threatened continuity, indicates that it can function best as an independent organization, not bound administratively to any institution. Since one of its primary purposes is to serve as a culture distribution center, for which fees are necessarily charged, a connection with any Federal or State agency is all but precluded, as they cannot provide such special services gratuitously nor can they expediently engage in commercial operations. The museum function of collecting and studying cultures is too closely related to the service of supplying authentic materials to those needing them in education and research for either activity to be dissociated from the other. This relationship was inherent in the original concept of the ATCC.

Aside from excluding an administrative institutional connection there is no limit to the cooperation which could exist between the ATCC on the one hand and governmental agencies, commercial organizations, and societies and individuals concerned with microbiology on the other. The present set-up of the ATCC's Virus Registry might serve as a model for the entire Collection, indeed much of its operation is already on this basis. The Virus Registry is administered by a committee representing Federal agencies, university departments and commercial laboratories. Their cooperation has been spontaneous and efficient. There is, for its security, a sustaining grant by the partner having the broadest interest and the most money—the Federal Government. The participation of the other partners is gratuitous; it would be expensive to have to purchase this at going rates. Thanks to the Federal subsidy, the ATCC needs to charge only a moderate fee for a service from which virological science in general benefits.

To cover all the ATCC operations under a similar arrangement involves some logistic difficulties. So expensive an item as housing the Collection and providing major equipment must now be charged to the proceeds from the sale of cultures. The research grants it has gotten were all limited to special purposes and sometimes failed suddenly of continuity. What are, from the Collection's standpoint, the most essential research projects—improvement of techniques in growing and preserving cultures—have met with least favor

in applying for grants. Some segments of the Collection do not pay their way, may never be economic to maintain, but are or may become scientifically important. If lost here they might disappear indefinitely.

Routine costs can always be met from routine income. Grants for basic, especially taxonomic, research within the special competence of the Collection will probably be forthcoming. But adequate quarters and equipment for a growing job, and enough overhead money to work consistently at improving its services are the Collection's indispensable needs. They would also seem to be the forms in which private philanthropy and perennial granting agencies might most logically intervene. But who? —FREEMAN A. WEISS.

THE AMERICAN ACADEMY OF MICROBIOLOGY, INC.

Certification

The Academy is moving slowly toward the inauguration of its certification program. Many hours have been spent in discussion to arrive at a plan which, it is hoped, will be acceptable to all concerned. Many points, such as the financial structure, liability involved, and the accreditation of curricula and laboratories have had to be very carefully considered. Three committees of the Academy have spent much time in these deliberations and it now seems that common agreement is in sight and the actual organization of a certifying board has been started. At this time the plan is for the Academy or a separate corporation sponsored by the Academy to do all the certifying in microbiology. The committees' work is now centered in the area of medical and public health microbiology at the doctoral level where, it is expected, the first certification will be done. If there is demand, certification in sub-specialties such as virology will be made available. Programs in other areas will be established at any time a demand exists.

There seems to be general agreement that the program will eventually cover two or three levels of education and training. Many believe the greatest need for certification or accreditation is at the M. S. and B. S. levels, so the Academy is keeping this objective in its planning.

Microbiologists will be kept informed by additional periodic progress reports.

Qualifications for Fellowship

There has been some misunderstanding concerning the qualifications for Fellowship in the Academy. The basic requirements have been printed in *Bacteriological News* and are familiar to all. It is to be emphasized that these requirements are the minimum requirements for consideration.

It is the opinion of the Committee on Election that Fellowship in the Academy should be reserved for microbiologists of stature and that more than minimum requirements should be expected of candidates. Accordingly, in acting on nominees, the Committee has given particular consideration to high ethical standing and professional excellence and experience of the nominee and of his favorable impact on individual microbiologists and on the profession of microbiology generally.

Election to Fellowship follows nomination of a candidate by a Fellow of the Academy, approval by the Committee on Election and acceptance by the Board of Governors.

Professional Relations

The Academy has found many occasions to lend its support to measures which will be of aid to the science of microbiology, and to the profession of

the Microbiologist. It is hoped that the Academy can continue to strengthen its activities in this area. The Board of Governors will be glad to receive any suggestions for additional activities in this field which may occur to anyone in the S.A.B.

G. I. WALLACE,
Executive Secretary

1959 DUES

If you haven't yet paid your dues for 1959 won't you please do so at once? After the January issue of the *Journal* is mailed, all members whose dues are not paid for 1959 are automatically suspended. Each year this happens to several hundred members. Won't you save the Society a lot of bother and expense and keep your journals coming regularly by paying your dues now?

NEWS AND ANNOUNCEMENTS

INDEX TO BACTERIOLOGICAL REVIEWS

When you examine your copy of the *Reviews* for December, 1958, you will find an excellent index covering Volumes 11-22 inclusive. For its preparation we are indebted to Professor Perry W. Wilson and his able assistant, Mrs. Dorothy Gosting.

Preparation of an extensive index must come as an anti-climax after one has retired from 6 active years of editorship of the *Reviews*, as Professor Wilson did in 1957. Some of us tend to take these services for granted without realizing the amount of work they require. Anyone who has ever prepared an index, however, will realize how much time and effort Dr. Wilson and Mrs. Gosting devoted to this project. We members of the Society are most fortunate that they have been willing to continue their services "without portfolio", as it were, until the index was completed.

Members who bind their *Reviews* will be happier in the future if they have the binder print the word INDEX on Volume 22.

PRESIDENT'S FELLOWSHIPS GO BEGGING

When the Difco Laboratories several years ago generously offered the Society funds to support "additional useful service" to bacteriology, a special committee recommended and the Council approved establishment of "President's Fellowships". These fellowships were intended to provide money to members of the Society under 35 years of age to support short periods of training in technical procedures or of study in microbiology related to their research. As the program has been administered, funds (usually a few hundred

dollars) have been supplied to qualified applicants for transportation and/or maintenance during their training period.

Although the President's Fellowship Committee has publicized the program repeatedly through announcements in *Bacteriological News*, direct appeals to local branch officers, and in other ways, there seems to be little interest at this time, as judged by the lack of applications.

This announcement, therefore, is in the nature of a final appeal. If there is no demand for the funds, there may be no alternative to terminating the President's Fellowship program. If you know of a young person who would benefit from a short period of study at another laboratory, tell him about the President's Fellowship Program. Details and application blanks can be obtained from any member of the Committee:

Charles A. Evans, Dept. of Microbiology, School of Medicine, University of Washington, Seattle 5, Washington

Arthur K. Saz, Section on Medical and Physiological Bacteriology (Bldg. 5), National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda 14, Maryland

Robert L. Starkey, Chairman, Dept. of Agricultural Microbiology, Agricultural Experiment Station, New Brunswick, New Jersey

NOBEL LAUREATES IN PHYSIOLOGY AND MEDICINE

Announcement of the winners of the Nobel Prize in Physiology and Medicine for 1958 recognizes once again fundamental research in microbiology. The joint award to Dr. Joshua Lederberg, Dr. Edward L. Tatum and Dr. George W. Beadle

honors three outstanding American research workers, two of whom have been intimately associated with the Society.

Dr. Edward L. Tatum, now at the Rockefeller Institute for Medical Research, received a master's degree in bacteriology at the University of Wisconsin, studying under Dr. E. B. Fred, a former President of the Society, and his associate, Dr. W. H. Peterson. Tatum's first contributions to bacteriology dealt with problems in fermentation, an example of which is the paper he presented at the 36th Annual Meeting (Chicago, 1934) entitled "The effect of asparagin and related compounds on certain butyric acid fermentations." After receiving his doctorate in biochemistry and bacteriology at the University of Wisconsin plus some additional training in European laboratories, he teamed with Professor George Beadle at Stanford University to found the new science of biochemical genetics.

The research for which Tatum and Beadle were honored was reported on several occasions to members of the Society through symposia in which Dr. Tatum participated. In 1947 he acted as convener of a round table on *Mold Metabolism* and also contributed to another that dealt with *Growth Factors for Pathogens*. His paper, "Growth factor requirements of mutant strains of microorganisms", detailed the pioneer work that was to lead to the Nobel Prize. At the Boston meeting in 1952 he acted as convener for the symposium on *Physiology and Genetics of Microorganisms*.

While Tatum was at Yale in 1945-48 he had as a graduate student Joshua Lederberg whose doctoral thesis was concerned with the classic demonstration of recombination in bacteria—or more bluntly, sex in bacteria. After moving to the Department of Genetics at the University of Wisconsin in 1947, Dr. Lederberg continued research in the field opened up by this basic finding which eventually led to the remarkable discovery by him and his associates of the phenomenon that they christened "Genetic Transduction." The citation for the Nobel Prize specifically emphasized this aspect of the research. With some pride we note that the fundamental publications dealing with these discoveries were published in our own *Journal of Bacteriology* (Tatum and Lederberg, J. Bacteriol. 53, 673-684, 1947; Zinder and Lederberg, J. Bacteriol. 64, 679-699, 1952).

What might be a lesson for all of us with respect to one of the knottiest problems in publication—the proper length for a scientific paper—is eloquently pointed up in the letter of transmission that accompanied the 1952 manuscript:

Dear Dr. Porter:

Accompanying this letter we enclose a manuscript "Genetic exchange in *Salmonella*" for consideration for publication in the *Journal of Bacteriology*. In view of the length of the manu-

script, we trust that the following comments may be pertinent.

We have spend a good deal of thought and effort in its preparation. Some of our counselors urged that the work be presented in a series of two or three separate notes, but we feel that this would be both uneconomical and unjudicious for the first definitive paper in a new line of work. If anything, therefore, the paper may be too compact, but we have made every effort to keep it within the limits set by the journal. In this effort we have had _____ good counsel, and he has encouraged us to submit the manuscript to the *Journal of Bacteriology*.

Yours very sincerely,

Joshua Lederberg Norton D. Zinder

Associate Professor of Genetics

It is a tribute to Dr. Porter and his editorial advisors that the paper was not returned to the authors for further revision but was given the 20 necessary pages in volume 64 of the *Journal*.

As might be expected, this is not the first honor that has come to Dr. Lederberg. He was named one of the outstanding young men of America in 1955; he won the Eli Lilly Award in Bacteriology and Immunology in 1953, and, together with his wife, Esther Lederberg, he was the winner of the Pasteur Award given by the Society of Illinois Bacteriologists in 1956.

The Society adds its felicitations to the many these three researchers have undoubtedly received.

FIRST LATIN-AMERICAN CONGRESS FOR MICROBIOLOGY

As was announced in *Bacteriological News* for August, 1958, the Asociación Mexicana de Microbiología organized the First Latin-American Congress for Microbiology, which was held October 12-19, 1958. In response to an invitation from the Secretary-General of the Congress, President Harry Eagle named Dr. L. S. McClung an official representative from our Society. Following is his report on the Congress.

"The First-Latin-American Congress for Microbiology and the Second National Congress of Microbiology of Mexico was held October 12-19, 1958, in Mexico City. More than 200 persons registered from Argentina, Brazil, Chile, Columbia, Costa Rica, Cuba, Ecuador, Guatemala, Honduras, Mexico, United States, and Venezuela. The Congress officers included: Geraldo Varela, President; A. Gonzalez Ochoa, A. Sanchez Marroquin and C. del Rio Estrada, Vice-Presidents; J. Sosa-Martinez, Secretary-General and E. Pizzarro Suarez, Treasurer. The Congress was organized by the Asociación Mexicana de Microbiología, of which A. Perez-Miravete is President and C. Casas Campillo is Vice-President. Greetings from the Society of American Bacteriologists were presented at the opening session by L. S. McClung

and at the closing session by Claude E. ZoBell. They expressed the appreciation of the U. S. representatives for the many thoughtful courtesies which had been enjoyed by all.

"More than 100 scientific papers were presented. These were organized in sessions relating to general, agricultural, sanitary and medical microbiology, microbial biochemistry, antibiotics, helminthology, protozoology, micropaleontology, immunology, plant pathology, mycology, and virology. Four special symposia or panel sessions were devoted to Actinomycetes, Leishmaniasis, Mode of Action of Antibiotics, and Enteric Bacteriology. In addition to the rich scientific program, the registrants were afforded opportunity to tour various points of microbiological and historical interest throughout the city including the beautiful, thoroughly modern campus of the Universidad Nacional de Mexico—where the scientific sessions of the first three days were held in the spacious building which houses the Escuela Nacional de Medicina. Of interest also were the campus and buildings of the Instituto Politecnico Nacional including the Departamento de Acción Social, where the closing session convened. Complimentary lunches, personal guide service and transportation on tours, and aid with language interpretation were only part of the many courtesies extended to the guests by the hosts. Following the close of the formal sessions at noon on Thursday, the majority of the group took advantage of an archeological excursion to San Juan Teotihuacán. The following three days were spent at Acapulco during which time the delegates had an opportunity to see more of Mexico, both old and new.

"In addition to the scientific program, there were several commercial exhibits including one which should be of interest to those doing microbiological research in the United States and who wish to keep abreast of the microbiological literature of Latin America. Copies were displayed of the first two issues and the first supplement of the new journal sponsored by the Asociación Latinoamericana de Microbiología. Although the majority of the articles published are in Spanish, each article includes a long English abstract prepared by someone thoroughly familiar with the laboratory results and with English. The name of the journal is *Revista Latinoamericana de Microbiología* and the subscription price (at present, four issues and two supplements) is \$6.00 per year (U. S. currency). Subscriptions should be sent to Dr. J. M. Gutiérrez-Vazquez, Escuela Nacional de Ciencias Biológicas, Instituto Politécnico Nacional, Mexico, D. F.

"Future Congresses will be convened at three year intervals, the next to be held in Costa Rica in 1961. For this Congress the Secretary will be Dr. Luis Palencia, Departamento de Microbiología, Escuela Nacional de Medicina, Universidad

Nacional Autonoma de Mexico, Ciudad Universitaria, Mexico, D.F."

FELLOWSHIPS AVAILABLE

If you are contemplating further schooling or if you are advising high school or college students you may find the following list of scholarships and fellowships helpful. The list was prepared and distributed by the Fellowship Office, National Academy of Sciences - National Research Council, in October, 1958.

Undergraduate Fellowship Sources

NATIONAL MERIT SCHOLARSHIPS. This program is national in scope. Consult your high school principal or write to National Merit Scholarship Corporation, 1580 Sherman Avenue, Evanston, Illinois for free booklet, "Financing Scholarship Aid."

WESTINGHOUSE SCIENCE SCHOLARSHIPS. For information write to Westinghouse Electric Corporation, Educational Department, Pittsburgh 21, Pennsylvania.

GENERAL MOTORS SCHOLARSHIPS. Write to General Motors National Scholarship Plan, Educational Testing Service, P.O. Box 461, Princeton, New Jersey.

JESSIE SMITH NOYES FOUNDATION, INC. Offers assistance to students for sophomore, junior or senior years in college in all fields. Write to Jessie Smith Noyes Foundation, Inc., Scholarship Division, 16 East 34th Street, New York 16, New York.

Graduate and Postdoctoral—National Science Foundation Fellowships and Institutes in the Natural Sciences

NAS - NRC

REGULAR GRADUATE FELLOWSHIPS. Offered once a year with spring award date to those working toward the masters' or doctoral degrees in the first, intermediate or terminal year of graduate study.

REGULAR POSTDOCTORAL FELLOWSHIPS. These fellowships are offered semi-annually with fall and spring award dates. Applicants must have doctoral degree or equivalent experience.

For information regarding the two above programs apply to the Fellowship Office, National Academy of Sciences-National Research Council, 2101 Constitution Avenue, N.W., Washington 25, D.C.

NSF

SENIOR POSTDOCTORAL FELLOWSHIPS. Applicants must have held doctoral degree for at least five years. Offered once a year with winter award date.

SCIENCE FACULTY FELLOWSHIPS. Applicants must have three years of college teaching experience. Offered once a year with winter award date.

COOPERATIVE GRADUATE FELLOWSHIPS. Offered through participating graduate schools. Spring award date.

SUMMER INSTITUTES FOR COLLEGE AND HIGH SCHOOL SCIENCE AND MATHEMATICS TEACHERS. Offered through participating colleges and universities.

SUMMER FELLOWSHIPS FOR GRADUATE TEACHING ASSISTANTS. Offered to college teaching assistants only. Spring award date.

For information regarding the five above programs apply to the Division of Scientific Personnel and Education, National Science Foundation, Washington 25, D.C.

OTHER PREDOCTORAL

ATOMIC ENERGY COMMISSION SPECIAL FELLOWSHIPS. The Oak Ridge Institute of Nuclear Studies through its University Relations Division operates several predoctoral programs including fellowships in radiological physics, industrial hygiene and nuclear science and engineering. A baccalaureate degree is required. Write to the above division, Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tennessee.

THE EDWARD JOHN NOBLE FOUNDATION. Open to first year graduate students in all fields of study. Write to the Edward John Noble Foundation, 300 Park Avenue, New York, New York.

ROTARY FOUNDATION FELLOWSHIPS FOR ADVANCED STUDY. For study abroad in all fields. Write to Rotary International, 1600 Ridge Avenue, Evanston, Illinois.

THE DANFORTH GRADUATE FELLOWSHIPS. For young men wishing to teach at college level. Offered in all major fields. Apply to Dr. Kenneth I. Brown, Executive Director, The Danforth Foundation, 835 South Eighth Street, St. Louis, Missouri.

THE SOUTHERN FELLOWSHIPS FUND. Available to persons now teaching or to those who wish to teach in Southern Colleges. For teacher training and advanced study and research. Write to The Southern Fellowships Fund, Post Office Box 427, Chapel Hill, North Carolina.

INSTITUTE OF INTERNATIONAL EDUCATION. Offers fellowships in all fields of study to be pursued abroad including *Fulbright Graduate Program*. Apply One East 67th Street, New York 21, New York.

WOODROW WILSON NATIONAL FELLOWSHIP FOUNDATION. First year graduate fellowships in natural and social sciences and the humanities. Applicants cannot apply individually; must be nominated by faculty members. Write to National Director, Woodrow Wilson National Fellowship Foundation, Box 642, Princeton, New Jersey.

NATIONAL INSTITUTES OF HEALTH RESEARCH FELLOWSHIPS. Offered in the basic sciences including psychology and sociology as related to health

and disease. Write to Dr. Stephen P. Hatchett, Chief, Research Fellowships Review Branch, Division of Research Grants, National Institutes of Health, Bethesda 14, Maryland.

ORGANIZATION OF AMERICAN STATES. For advanced training and research. Open to citizens of member states for study abroad. Fields individually limited by member countries. U. S. is a member country. Apply Technical Secretary, O A S Fellowship Program, Pan American Union, Washington, D. C.

NATIONAL DEFENSE GRADUATE FELLOWSHIPS. Authorized by Public Law 85-864, 1958. For graduate students only. For the preparation of prospective college and university teachers. Write to Division of Higher Education, Office of Education, U.S. Department of Health, Education and Welfare, Washington 25, D.C.

OTHER POSTDOCTORAL

COMMITTEE ON INTERNATIONAL EXCHANGE OF PERSONS (Fulbright and Smith-Mundt Acts). Write to Dr. Francis A. Young, Executive Secretary, 1785 Massachusetts Avenue, Washington 25, D.C.

NATIONAL INSTITUTES OF HEALTH RESEARCH FELLOWSHIPS. Offered in the basic sciences including psychology and sociology as related to health and disease. Write to Dr. Stephen P. Hatchett, Chief, Research Fellowships Review Branch, Division of Research Grants, National Institutes of Health, Bethesda 14, Maryland.

U. S. PUBLIC HEALTH SERVICE POSTDOCTORAL RESEARCH FELLOWSHIPS. Open to citizens of certain foreign countries in medicine and biology. Write to Dr. Ronald E. Scantlebury, Chief, Foreign Grants and Awards, Division of Research Grants, National Institutes of Health, Bethesda, Maryland.

NATIONAL ACADEMY OF SCIENCES - NATIONAL RESEARCH COUNCIL FELLOWSHIPS IN THE MEDICAL SCIENCES. For information write to Division of Medical Sciences, NAS - NRC, 2101 Constitution Avenue, N.W., Washington 25, D.C.

* **JOHN SIMON GUGGENHEIM MEMORIAL FOUNDATION.** This program offers fellowships in all fields of study. Apply to the Secretary General, 551 Fifth Avenue, New York 17, New York.

* **THE FORD FOUNDATION.** Address inquiries to The Secretary, The Ford Foundation, 477 Madison Avenue, New York 22, New York.

* **SOCIAL SCIENCE RESEARCH COUNCIL,** 230 Park Avenue, New York 17, New York.

The above is only a partial listing of available fellowships. All colleges offer scholarships. Information can be obtained by writing directly to the individual colleges.

*These programs also offer a few predoctoral fellowships.

Publications Listing Scholarships and Fellowships

"Financial Aid for College Students-Undergraduate"—\$1.00. "Financial Aid for College Students-Graduate"—50¢. Write to Superintendent of Documents, Washington 25, D. C.

"Scholarships, Fellowships and Loans", by S. Norman Feingold, published by Bellman Publishing Company, Cambridge 38, Massachusetts. Three volumes—probably available at public library.

"Your Opportunity" by Theodore S. Jones, P.O. Box 41, Milton 87, Massachusetts. Cost \$3.95.

"Need A Lift?" Write to The American Legion, P.O. Box 1055, Indianapolis 6, Indiana.

"Barron's Educational Series" by Brownstein, Weiner and Kaplan, Great Neck, New York as follows: "You Can Win A Scholarship" \$2.98. "College Entrance Examinations" \$1.98. "College Bound" \$1.98. "Directory of Fellowships in the Arts and Sciences" Available through the University of Wisconsin, Room 79, Biochemistry Building, Madison, Wisconsin.

"Study Abroad" UNESCO, Columbia University Press, New York City, New York. \$2.50. "Directory of Fellowship Sources—1957" Write to Harvard University Printing Office, Committee on Research and Development, Cambridge 38, Massachusetts.

PROCEEDINGS OF 7th INTERNATIONAL CONGRESS FOR MICROBIOLOGY NOW AVAILABLE

Abstracts of communications delivered at Paper Sessions (453 pp., paper-bound) were published in advance and distributed to the members at the Congress. Additional copies are available at 30 Sw. Cr. each from Almquist and Wiksell, Stockholm Sweden.

The symposium volume was published in January, 1959, and is available at \$10.00 per copy from Charles C Thomas Company, Springfield, Illinois. Following are the titles and speakers of the symposia:

Recombination mechanisms in bacteria. (Moderator: Lederberg, J., Sw. Organizer: Klein, G.)—Jacob, F.: *The relationships between the prophage and the bacterial chromosome.*—Stocker, B. A. D.: *Phage-mediated Transduction.*—Cavalli-Sforza, L. L.: *Bacterial recombination.*—Ephrussi-Taylor, H.: *The mechanism of deoxyribonucleic acid induced transformations.*—Discuss.: Austrian, R., Bertani, G., Braun, W., Fredericq, P., Szybalski, W.

Role of protein in nucleic acid synthesis and role of nucleic acid in protein synthesis. (Moderator: Tiselius, A., Sw. Organizer: Ehrenswärd, G., Reichard, P.) Zamenhof, S.: *Some studies on the Correlation between the change in structure and the*

change in function of deoxyribonucleic acids.—Spiegelmann, S.: *Protein and Nucleic acid synthesis in subcellular fractions of bacterial cells.*—Gale, E. F.: *Incorporation factors, Amino acid incorporation and nucleic acid synthesis.*—Ochoa, S.: *The biosynthesis of ribonucleic acid.*—Discuss.: Cowie, D. B., Gros, F., Hahn, F. E., Hammarsten, E., Volkin, E.

Tissue specific antibodies. (Moderator: Witebsky, E., Sw. Organizer, Grubb, R.) Coombs, R. R. A.: *Methods for demonstrating tissue specific antibodies.*—Grabar, P.: *L'auto-antigenicité.*—Brent, L.: *Tolerance and auto-immune phenomena* (co-author: Medawar, P. B.)—Discuss.: Miescher, P., Milgrom, F., Ouchterlony, Ö., Vorlaender, K. O.

Latent and masked virus infections. (Moderator: Andrews, C. H., Sw. Organizer: Svedmyr, A.)—Lwoff, A.: *Latency at the cellular level and the three body problems.*—Bennett, C. W.: *Masked plant viruses.*—Maramorosch, K.: *Latent virus infections in arthropods.*—Shope, R. E., *Latent virus infections in animals.*—Discuss.: Dulbecco, R., Morgan, H. R., Smith, K. M., Traub, E., Weller, T. H.—Résumé by Burnet, F. M.

Germ-free animals. (Moderator: Daft, F. S., Sw. Organizer: Gustafsson, B.)—Reyniers, J.: *Report on germ-free research at the Lobund Institute, University of Notre Dame.*—Gyorgy, P.: *Observations on "germ-free animals" at the Walter Reed Army Institute of Research, Washington, D.C.*—Miyakawa, M.: *Studies on wound healing, tumor heterotransplantation and foreign body inflammation in the germ-free guinea pig.*—Wright, W. H.: *Germ-free animal research at the National Institutes of Health.*—Gustafsson, B.: *Report on germ-free research at the Department of Histology, University of Lund.*—Discuss.: Gard, S., Glimstedt, G.

Continuous culture methods and their application. (Moderator: Henderson, D. W., Sw. Organizer: Malmgren, B.)—Bryson, V.: *Application of Continuous Culture to Microbial Selection.*—Herbert, D.: *General principles of continuous culture.*—Johnson, M. J.: *Oxygen supply in continuous culture.*—Novick, A.: *Experimentation with the Chemostat.*—Discuss.: Brown, W. E., Gerhardt, P., Graziosi, F., Holm, T., Powell, E. O.

APPLICATION BLANKS AVAILABLE TO ALL

Not infrequently members of the Society ask your Secretary or the Business Office for an application blank to be used by a prospective member. Somehow a blank never seems to be available when it is needed.

To simplify this problem for all, a nomination form is printed on page 26. All you have to do is cut out the blank, see that it is filled in properly and mail it with the candidate's dues to the Business Office. Who'll be the first to use this new device?

SCIENCE ORIENTATION IN INDIANA

During the summer of 1958 the Department of Bacteriology at Indiana University cooperated with other science departments in a two-week program of orientation to science offered to 60 high school students and 5 teachers. These students, to be seniors in 1958-59, were selected from 400 nominations from the high schools of the state and the program was financed by grants from the National Science Foundation, the Eli Lilly Foundation, and research funds of the university. A group of 39 were chosen at the end of the orientation program to remain on the campus for an additional six weeks of research apprenticeship. Four of this group (and one from the 1957 group) and one teacher (Miss Jerry Motley, Howe High School, Indianapolis) chose research projects in bacteriology. The students and their schools were: Judith Brooks, Bloomington High School, Bloomington; Michael Cooper, Central High School, Evansville; Karen Gabbard, Garfield High School, Terre Haute; Larry Frankel, Central High School, Muncie; and Jeanne M. Wellborn, Bosse High School, Evansville.

NOTICES

Special courses offered by Public Health Service. The following courses will be offered at the Robert A. Taft Sanitary Engineering Center in Cincinnati:

1. *Microbiological and Chemical Examination of Milk and Dairy Products*; February 2-6, 1959; for bacteriologists in state, municipal, and other laboratories engaged in milk analysis and dairy products examination. Theory, laboratory techniques, and interpretation of tests used in evaluating the sanitary quality of milk and dairy products are considered, with emphasis on selection and application of procedures outlined in *Standard Methods for Examination of Dairy Products* and on certain screening tests. Laboratory practice includes procedures used in detection of bacterial groups or of species of special significance in the quality control of milk.

2. *Laboratory Methods for Prevention and Control of Food-Borne Disease*; February 9-11, 1959; for laboratory supervisory personnel concerned with bacteriological and chemical contamination of foods. Emphasis will be given to methods, standards, and operating procedures applicable to a food sanitation program, including inspections, grading, and licensing of food establishments. Demonstrations and laboratory exercises include microbiological and chemical methods for food quality control, and procedures for enumeration, isolation, and identification of food poisoning bacteria.

Detailed information on course contents can be obtained from and applications can be addressed

to the Chief, Training Program, Robert A. Taft Sanitary Engineering Center, 4676 Columbia Parkway, Cincinnati 26, Ohio, or to a PHS Regional Office Director.

Old copies of journals wanted. If you do not keep your copies of scientific journals after reading them, Magazines for Friendship, Inc. would appreciate your help. This non-profit organization will provide you with selected names of foreign scholars, teachers, universities and libraries eager to receive learned U.S. publications, even old ones. For complete details, send a stamped, self-addressed envelope to Magazines for Friendship, Occidental College, Los Angeles 41, California.

The Second World Conference on Medical Education is being held August 31 to September 4, 1959, in Chicago. The conference is sponsored by the World Medical Association in collaboration with the World Health Organization, the Council for International Organizations of Medical Sciences and the International Association of Universities. Persons interested in medical education may apply for registration to Dr. Louis H. Bauer, The World Medical Association, 10 Columbus Circle, New York 19, New York.

NEWS ABOUT OUR MEMBERS

Bernard L. Oser, president and director of the Food and Drug Laboratories, Inc., Maspeth, N. Y., has received the \$1000 Babcock-Hart Award for his technological services to nutrition and public health. The award was presented during the 18th annual meeting of the Institute of Food Technologists in Chicago.

J. Oliver Lampen has resigned his position as Director of the Division of Biochemistry, Squibb Institute for Medical Research, to become the Director of the Institute of Microbiology at Rutgers University. Dr. Lampen succeeds **Dr. Selman A. Waksman**, who retired to devote his time to writing and to studying the actinomycetes.

E. R. Squibb and Sons, one of our sustaining members, celebrated its 100th birthday last year. Highlighting the centennial celebration was a cornerstone-laying ceremony on September 9, 1958, to mark the beginning of a five-year cancer research program in cooperation with the government.

G. Briggs Phillips of the Safety Division, Fort Detrick, Maryland, has been awarded a "Research and Study Fellowship" by the Secretary of the Army. During the 9 to 12-month period of the fellowship Dr. Phillips will study methods of preventing laboratory-acquired illnesses among scientists. He will visit Canada, England, Sweden and various areas of the U. S. **George C. Wright** of Fort Detrick recently completed a similar fellowship tenure at the Sir William Dunn School of Pathology, Oxford University, England.

Warner-Lambert Research Institute, a division of Warner-Chilcott Laboratories (sustaining mem-

ber) recently supported a symposium on hexahydropyrimidine. The symposium, held on October 23, 1958, in Chicago, was sponsored by Northwestern University. **C. A. Evans**, University of Washington, was chairman of the symposium.

Harve J. Carlson has been appointed Head, Microbiology Branch, Office of Naval Research. Dr. Carlson returned to Washington from a tour of duty as Scientific Liaison Officer with the O.N.R. in London.

Franklin R. Leach has been named a National Research Fellow in the Medical Sciences by National Academy of Sciences-National Research Council. The fellowship permits Dr. Leach to continue his studies on the relation of amino acids and peptides to assimilation and protein synthesis in lactic acid bacteria. He is working with **Dr. Esmond E. Snell** at the University of California in Berkeley.

Melvin Santer, Assistant Professor of Biology at Haverford College, received a Lalor Foundation Award for 1958-59. Dr. Santer is studying "Intermediates in thiosulfate oxidation by *Thiobacillus thioautotrophicus*" at Yale University.

Johan Winsor has been named Assistant Director of the Division of Laboratories Nassau County Department of Health, and has moved to Hempstead, New York.

Ichiro Uesake of the Tuberculosis Research Institute, Kyoto University, Japan, is a visiting investigator at the Department of Bacteriology, University of Georgia. Dr. Uesake is collaborating with **Dr. N. M. McClung** on a study of the taxonomic characteristics of *Nocardia* organisms.

Marvin K. Nadel, formerly associated with Research Laboratories, Inc. and the Anchor Serum Company, St. Joseph, Missouri, has joined the staff of Lederle Laboratories. He is in charge of the production of diagnostic agents.

L. W. Slanetz, Chairman of the Department of Bacteriology, University of New Hampshire, is serving as a member of the Sanitary Engineering and Occupational Health Study Section of the National Institutes of Health for the period October 1, 1958 to September 30, 1962.

Members who attended the First Latin-American Congress for Microbiology October 12-19, 1958, included **L. S. McClung**, **C. E. ZoBell**, **Fernando Caravajal**, **Francis B. Gordon**, **Thomas**

G. Pridham, **John B. Routien**, and **Maurice S. Tarshis**.

R. J. Dubos gave the third annual lecture to the Lambda Phi Chapter of Phi Rho Sigma Medical Fraternity on November 13, 1958, at the University of Pennsylvania. Dr. Dubos spoke on "Effect of Environment on Infectious Diseases".

Albert H. Coons, Visiting Professor of Bacteriology and Immunology at Harvard Medical School, received the eighth annual Kimble Methodology Research Award at the 1958 Conference of State and Provincial Public Health Laboratory Directors in St. Louis. Dr. Coons was honored for his work on the fluorescent antibody technique, which permits more rapid diagnosis of virus diseases. The award, consisting of \$1,000 and an engraved plaque, is sponsored by the **Kimble Glass Co.**, a sustaining member of the Society. The 1957 Award was won by **Dr. John E. Blair** for his pioneering work on phage typing of staphylococci.

William B. Sarles, Chairman of the Department of Bacteriology, University of Wisconsin, will be on leave during the second semester of 1958-59 to serve as Carnegie Visiting Professor of Bacteriology in the University of Hawaii. Professor **Perry W. Wilson** will be Acting Chairman of the Department while Professor Sarles is on leave.

Abraham Eisenstark, Kansas State College, is spending a nine-month sabbatical leave on a Guggenheim Fellowship in the laboratory of Dr. Maaløe in Copenhagen, Denmark. Dr. Eisenstark is continuing his studies on abortive transduction.

Joshua Lederberg, recent Nobel Prize winning Professor of Genetics at the University of Wisconsin, has decided to follow Horace Greeley's famed injunction to "Go West, Young Man." Effective February 1, 1959, Dr. Lederberg will become Chairman of the new Department of Genetics at the Stanford University Medical School, Stanford, California. The program of his department will include continued research on the genetics of microorganisms as well as other experimental materials.

William Elias, Wyeth Laboratories, is Secretary and Chairman-elect of the Analytical Microbiology Group for 1959-60. Dr. Elias' name should be added to the list of officers of the group published on page 6 of *Bacteriological News* for November, 1958.

LOCAL BRANCH ACTIVITIES

NEW JERSEY BRANCH CAREER COMMITTEE AT WORK

We continue to hear about the activities of the Education and Career Committee of the New Jersey Branch. This committee under the chairmanship of Benjamin S. Schwartz, Warner-Lam-

bert Research Institute, Morris Plains, New Jersey is developing a program aimed at stimulating interest in the study of biology and microbiology and in improving the quality of such education. The Branch offers to high school science teachers and career guidance supervisors assistance in the following areas.

1. Furnish speakers and demonstration material for high school guidance programs.

2. Guided tours through the Institute of Microbiology, Rutgers University and industrial scientific laboratories.

3. A special award for the best exhibit in biology or microbiology at the Greater Newark Science Fair has been established by the branch.

4. Aid in enriching high school science club programs by helping to arrange for speakers, projects, tours, and individual guidance.

5. A program aimed at encouraging the employment of high school teachers in scientific areas in industry during the summer.

6. Invitation to high school science teachers to attend scientific programs of the branch, and individual recognition of a science teacher as a guest each month.

7. The committee is presently developing a set of simple experiments which will illustrate important principles in biology.

At the New Jersey Branch meeting on October 23, 1958, which your Secretary had the pleasure of attending, the Education and Career Committee demonstrated some of the illustrative material it has prepared for use by speakers at high school guidance and science club programs. The material consisted of slides, film strips, charts and demonstration cultures.

Other branches contemplating activities of this sort will profit from contacting Mr. Schwartz or the Secretary of the Committee, Dr. Arnold Demain, Merck Sharp and Dohme Research Laboratories, Rahway, New Jersey.

MARYLAND BRANCH AWARDS

At its 1958 Spring Meeting on March 29 the Maryland Branch presented its annual **Barnett L. Cohen Award** to Dr. William David McElroy, Director of the McCollum-Pratt Institute and Chairman of the Biology Department, Johns Hopkins University. Dr. McElroy was honored primarily for his research on the mechanism of light emission from chemical reactions, particularly those of biological origin.

Also at the Spring Meeting the **J. Howard Brown Award** was given to Werner Alfred Janssen, a candidate for the Ph.D. in the Department of Microbiology at George Washington University. Mr. Janssen won the Award for his research on "The Response of Guinea Pig Lungs and Hearts to Cultures of *Pasturella pestis*."

REPORTS FROM LOCAL BRANCH MEETINGS

Allegheny Branch (Gladys Sather, Secretary-Treasurer)

October 4, 1958, Pennsylvania State University, University Park, Pennsylvania.

1. The growth of bacteria in pure deuterium

oxide. Milton Weiner, Department of Microbiology, University of Pittsburgh School of Medicine.

2. The effect of light and aeration on the relationship between photophosphorylase and photooxidase in *Rhodospirillum rubrum*. M. L. Ibanez and E. S. Lindstrom, Pennsylvania State University.

3. The preparation and application of the fluorescent antibody technique. M. Braune and R. Gentry, Pennsylvania State University.

4. Nutritional factors affecting Cocksackie B and Vaccinia virus production in monkey heart and rabbit kidney tissue culture. R. L. Tyndall and E. H. Ludwig, Pennsylvania State University.

5. Glucose inhibition and mutation to glucose resistance in *Salmonella typhimurium*. Ellis Englesberg, Department of Biological Sciences, University of Pittsburgh.

6. Interaction of virulent and avirulent salmonellae and mononuclear phagocytes *in vivo* and *in vitro*. Geoffrey Furness (by invitation), Department of Microbiology, University of Pittsburgh School of Medicine, and Wright-Fleming Institute, London, England.

Southern California Branch (John E. Forney, Secretary-Treasurer)

October 8, 1958. San Fernando Veterans Administration Hospital, San Fernando, California.

1. Pulmonary lesions in mice following consecutive myxovirus infections. P. R. Fowler and C. J. McCammon, Departments of Medical Microbiology and of Pathology, University of Southern California, School of Medicine, Los Angeles.

2. Cytological studies of phage infection in mycobacteria. III. Phase contrast time-lapse studies of bacteria phage lysis in mycobacteria. S. Shadomy, S. Froman and M. J. Pickett, Departments of Bacteriology and of Infectious Diseases, University of California, Los Angeles, and Olive View Sanatorium, Olive View, California.

3. Establishment of high levels of cell immunity to phage infection. G. Bertani, Department of Medical Microbiology, University of Southern California, School of Medicine, Los Angeles.

4. High lights of the International Congress for Microbiology and the International Congress for Tropical Diseases and Malaria. M. G. Ball, Department of Bacteriology, University of California, Los Angeles.

Illinois Branch (C. J. Rickher, Secretary)

October 10, 1958. Leland Hotel, Springfield, Illinois.

1. Enumeration of enterococci from food samples. W. I. Taylor and John Silliker, Swift & Company, Chicago.

2. Evaluation of different substrates for the

staphylococcal coagulase test and a comparison of the tube and the slide technique for performing the test. Charles J. Jenkins, Jr. and William I. Metzger, Department of Bacteriology, Cook County Hospital and The Hektoen Institute for Medical Research, Chicago.

3. Sodium influenced respiration of normal and ultraviolet irradiated *Escherichia coli*. Mary A. McWhinnie, Department of Biological Sciences, De Paul University, Chicago.

4. Colchicine action on *Escherichia coli*. John R. Cortelyou, Department of Biological Sciences, De Paul University, Chicago.

5. Reversal of coccus variants as an aid in diagnostic bacteriology. Fanny B. Warnock, Department of Ophthalmology, University Hospitals, State University of Iowa, Iowa City, Iowa.

6. Gene-controlled resistance vs. sensitivity to caffeine and nicotine in *Saccharomyces*. C. C. Lindegren, G. Lindegren and S. Desborough, Southern Illinois University, Carbondale.

7. Criteria for the identification of the Genus *Pseudomonas*. N. W. Chmura, J. L. Shank, and J. H. Silliker, Swift & Company, Chicago.

8. A comparison of the *in vitro* and *in vivo* activity of ristocetin, penicillin and erythromycin. J. C. Holper, W. E. Grundy, and J. C. Sylvester, Infectious Disease Section, Research Division, Abbott Laboratories, North Chicago.

9. Antibiotic bactericidal studies: I. Effect of methods on apparent bactericidal concentrations. W. E. Grundy, Eleanor F. Alford and J. C. Sylvester, Microbiology Section, Research Division, Abbott Laboratories, North Chicago.

10. Proteolytic enzymes of *Serratia marcescens*. Ann Maksymiec, Department of Biological Sciences, Loyola University, Chicago.

11. *In vivo* antagonism between a strain of *Shigella flexneri* and microorganisms of the intestinal flora. David Hentges, Department of Microbiology, Stritch School of Medicine, Loyola University, Chicago.

12. Isolation of Coxsackie B viruses from cases of febrile respiratory illness. Max A. Rosenbaum and Irwin Schultz, Naval Medical Research Unit #4, Great Lakes.

13. Metabolism in glycolate-adapted *Escherichia coli*. Gladys Krakow, S. S. Barkulis, and James A. Hayashi, University of Illinois, College of Medicine, Chicago.

14. Response of tissue culture cell lines to experimental conditions. Robert W. Pumper and Davis L. Sackett, University of Illinois, College of Medicine, Chicago.

Following the afternoon paper session four educational movies were shown. The films were provided by Professor L. S. McClung, Chairman of the Society's Committee on Education, and the Indiana University Audio-Visual Center. Titles of the films were:

A Career in Bacteriology
Bacteria: Laboratory Study
Microorganisms: Harmful Activities
Microorganisms: Beneficial Activities

At the dinner meeting Professor H. O. Halvorson of the University of Illinois showed pictures taken during his recent period of study and travel in Europe and commented on his impressions of Bacteriology in Europe.

Indiana Branch (Walter A. Konetzka,
Secretary-Treasurer)

November 7, 1958, Marian College, Indianapolis, Indiana.

1. Studies on the complement-fixing antigens of poliomyelitis. Vincent V. Hamparian and K. Hummeler, Chas. Pfizer and Co., Inc., Terre Haute.

2. A survey of isolator systems used with germ-free animals. P. C. Trexler, Lobund Institute, University of Notre Dame, South Bend.

3. Adsorption characteristics of influenza viruses to lipids and fatty acids. A. F. Woodhour, K. E. Jensen, and J. Warren, Chas. Pfizer and Co., Inc., Terre Haute.

4. Cofactors in lysozymic bacteriolysis. Frank Wells and S. E. Hartsell, Department of Poultry Science and Department of Bio-Sciences, Purdue University, Lafayette.

5. Inactivation of fixed rabies virus grown on embryonated duck eggs by means of beta propiolactone. H. M. Powell and C. G. Culbertson, Lilly Research Laboratories, Indianapolis.

7. Cross-resistance among bacteria resistant to antibiotics and surface active agents. W. M. Bain and W. A. Konetzka, Department of Bacteriology, Indiana University, Bloomington.

8. Bacterial respiration and growth in soil sterilized by a high energy electron beam. G. H. Peterson, Department of Botany and Plant Pathology, Purdue University, Lafayette.

Kentucky-Tennessee Branch (Ilda McVeigh,
Secretary-Treasurer)

October 24-25, 1958, University of Tennessee, Knoxville, Tennessee.

1. Effect of *Histoplasma capsulatum* infection on the sensitivity of leukocytes of guinea pigs to histoplasmin. R. W. Johnson and M. Scherago, Department of Bacteriology, University of Kentucky, Lexington, Kentucky.

2. Effect of brucellergen on the *in vitro* migration of leukocytes from guinea pigs experimentally infected with *Brucella abortus*. R. W. Darlington and M. Scherago, Department of Bacteriology, University of Kentucky, Lexington, Kentucky.

3. The effect of streptococcal infection on the sensitivity of leukocytes of rabbits. Jack Gruber and M. Scherago, Department of Bacteriology, University of Kentucky, Lexington, Kentucky.

4. The effect of chemotherapy on the *in vitro* migration of leukocytes of tuberculous patients to tuberculin. E. H. Gerlach, M. Scherago, and H. E. Hall, Department of Bacteriology, University of Kentucky, Lexington, Kentucky.

5. The Krebs cycle enzymes of virulent and avirulent *Salmonella pullorum*. Raymond W. Beck, John M. Woodward, and D. F. Holtman, Department of Bacteriology, University of Tennessee, Knoxville, Tennessee.

6. Biochemical behaviour of a hemin-dependent *Escherichia coli*. Howard I. Adler and G. E. Stapleton, Biology Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

7. Genetic studies of L forms of bacteria. Lieselotte Bloss, University of Hamburg, Hamburg, Germany.

8. A laboratory technique employing DNase activity for differentiation of staphylococci. James Burns and D. Frank Holtman, Department of Bacteriology, University of Tennessee, Knoxville, Tennessee.

9. Bacteriophage studies of M-S intermediates of *Klebsiella pneumoniae*. Catherine B. Johnson and James C. Humphries, Department of Bacteriology, University of Kentucky, Lexington, Kentucky.

10. Studies on the nitrogen metabolism of *Nocardia asteroides* and *N. brasiliensis*. Margaret Simons and Margaret Hotchkiss, Department of Bacteriology, University of Kentucky, Lexington, Kentucky.

11. The influence of ATP and inorganic phosphate on tularemia rats. Gennare Miraglia and John M. Woodward, Department of Bacteriology, University of Tennessee, Knoxville, Tennessee.

12. A rapid method for the detection of carbohydrate fermentation by clostridia. Leo Kaufman and R. H. Weaver, Department of Bacteriology, University of Kentucky, Lexington, Kentucky.

13. Electron microscopy of equine abortion virus. E. C. Bracken and J. L. Norris, Departments of Microbiology and Anatomy, School of Medicine, Vanderbilt University, Nashville, Tennessee.

14. Quantitative studies on bacterial flagellation. O. F. Edwards, Department of Bacteriology, University of Kentucky, Lexington, Kentucky.

15. The effect of erythromycin on nasal staphylococci carriers. Thomas Hemmerly and Vernon Knight, Department of Medicine, School of Medicine, Vanderbilt University, Nashville, Tennessee.

16. Studies concerning slime production by an unidentified green pigmented yeast. Stephen J. Gagan and J. O. Mundt, Department of Bacteriology, University of Tennessee, Knoxville, Tennessee.

17. The constancy of numbers and kinds of lactobacilli and coliform bacteria in the rumen of

cows fed Ladino clover. Ralph F. Wiseman, Department of Bacteriology, University of Kentucky, Lexington, Kentucky.

18. Some aspects of the staphylococci problem in rural hospitals. Elmo S. Dooley, Consultant, Laboratory Division, Uplands Cumberland Medical Center, Crossville, Tennessee.

Maryland Branch (Regina C. Schneider, Secretary-Treasurer)

March 29, 1958. Fort Detrick, Frederick, Maryland.

1. Design and evaluation of a slit incubator sampler. Herbert Decker, Ralph Kuehne, Lee M. Buchanan and Robert Porter, Fort Detrick.

2. Tuberculin testing of monkeys experimentally infected with aerosols of tubercle bacilli. Joseph V. Jemski, Waldalmer F. Kirchheimer, Grace B. Phillips and Louis F. Maire, Fort Detrick.

3. The use of the fluorescent antibody technic for demonstration of *Pasteurella tularensis* in formalin-fixed tissue. John D. White and George P. Blundell, Fort Detrick.

4. Immunologic response of animals to purified pentavalent ABCDE botulinum toxoid. Matteo A. Cardella, Mary A. Fiock and George G. Wright, Fort Detrick.

5. The use of gelatin in the demonstration of bacterial capsules. Andrew G. Smith, Department of Microbiology, School of Medicine, U. of Maryland, Baltimore.

6. The role of calcium ions in the specific stimulation of growth at 37 C of virulent strains of *Pasteurella pestis*. Lazarus L. Kupferberg and Kiyoshi Higuchi, Fort Detrick.

7. The sulfonamide resistance and reduced virulence in *Aeromonas (Bacterium) salmonicida*. S. F. Snieszko and G. L. Bullock, U. S. Fisheries Station, Kearneysville, West Virginia.

8. A comparison of virulence tests for *Bacillus anthracis* spores. Albert L. Fernelius, Ira A. DeArmon, Jr., Frederick Klein and Ralph E. Lincoln, Fort Detrick.

9. Variability in cytopathogenicity of Venezuelan equine encephalomyelitis virus for L cells. Henry J. Hearn, Jr., Arthur Brown, and Frank M. Hardy, Fort Detrick.

10. Partial purification of Venezuelan equine encephalomyelitis virus utilizing adsorption to glass. Ralph F. Wachter, Emil W. Johnson, Jo Ann F. Comer and Dorothy G. Smith, Fort Detrick.

11. Arthropod-borne viruses in KB cell culture. Norma K. Raffel, Ann M. Merideth, Merrill J. Snyder and Fred R. McCrumb, Jr., School of Medicine, U. of Maryland, Baltimore.

Dr. Per K. Frolich, Deputy Chief Chemical Officer for Scientific Activities, Department of the Army, addressed the branch at the dinner meeting on "The Scientist in Organized Research."

October 24, 1958. Fort Detrick, Frederick, Maryland.

1. Recent advances in genetics of bacteria. J. Werner Braun, Institute of Microbiology, Rutgers University, New Brunswick, N. J.

2. Recent advances in genetics of viruses. James W. Moulder, Department of Microbiology, University of Chicago, Chicago, Ill.

Michigan Branch (Marvis Richardson, Secretary-Treasurer)

October 10, 1958. Michigan State University, East Lansing, Michigan.

1. The epizootiology of leptospirosis. Raymond Morter, Michigan State University, East Lansing.

2. Leptospirosis of domestic animals. H. S. Bryan, The Upjohn Co., Kalamazoo.

3. Laboratory diagnostic aids in the epidemiological investigation of leptospirosis. Mildred M. Galton, Communicable Disease Center, U.S.P.H.S., Chamblee, Georgia.

4. Chemotherapy of leptospirosis. Paul Thompson, Parke-Davis and Co., Detroit.

5. Workshop on leptospirosis.

6. Chemoprophylaxis of poliomyelitis in mice through the administration of plant extracts. K. Cochran, University of Michigan, Ann Arbor, and E. H. Lucas, Michigan State University, East Lansing.

7. Kinetics and mechanism of virus release. P. Loh, F. Payne, and W. W. Ackermann, University of Michigan, Ann Arbor.

8. Etiological relationship of avian neoplasma. A. K. Fontes, Regional Poultry Laboratory, East Lansing.

New Jersey Branch (C. V. Hubbard, Secretary)

October 23, 1958. Institute of Microbiology, Rutgers University, New Brunswick, New Jersey.

The program was devoted to discussions of "Education and Careers in Microbiology."

1. Role of the Theobald Smith Society in high school career guidance. Warren R. Stinebring, Institute of Microbiology, Rutgers University, New Brunswick.

2. Improving higher education for careers in microbiology—panel discussion.

Vernon Bryson, Moderator, Institute of Microbiology.

W. W. Umbreit, Rutgers University.

Richard Donovan, Squibb Institute for Medical Research.

Central New York Branch (Landon E. Bowers, Secretary-Treasurer)

November 1, 1958. Oaks Corners, New York.

1. Studies of four induced asporogenic mutants. G. Beskid and D. G. Lundgren, Department of

Bacteriology and Botany, Syracuse University, Syracuse.

2. Effect of freezing and thawing on the bacterial count of frozen foods. G. J. Hucker and Ann Clarke, New York State Agricultural Experiment Station, Cornell University, Geneva.

3. Some cytological and cytochemical observations on tissue cultured dog kidney cells following infection with infectious canine hepatitis virus. Leland E. Carmichael, New York State Veterinary College, Cornell University, Ithaca.

4. Studies on cytotropism of influenza virus in tissue culture. Robert B. Stewart, University of Rochester School of Medicine and Dentistry, Rochester.

5. Studies of the obligate chemoautotrophic iron bacterium *Ferrobacillus ferrooxidans*. M. P. Silverman and D. G. Lundgren, Department of Bacteriology and Botany, Syracuse University, Syracuse.

6. The denitrifying flora of soil. Concepcion L. Valera and M. Alexander, Laboratory of Soil Microbiology, Department of Agronomy, Cornell University, Ithaca.

7. Infection of chick embryo cells *in vitro* with Rous sarcoma virus. Robert M. Dougherty, University of Rochester School of Medicine and Dentistry, Rochester.

8. Combined antibiotic and radiation preservation of fresh beef. H. R. Newcomb, A. W. Phillips and F. Bach, Biological and Food Research Center, Syracuse University Research Institute and Department of Bacteriology and Botany, Syracuse University, Syracuse.

9. Studies on Tempeh, an Indonesian fermented soybean food. D. B. Hand, B. Providenti Yap, M. Van Buren and K. Steinkraus, New York State Agricultural Experiment Station, Cornell University, Geneva.

New York City Branch (J. S. Kiser, Secretary)

October 21, 1958. Memorial Center Auditorium, 444 East 68th St., N.Y.C.

Panel discussion of special problems in diagnostic microbiology:

1. Antibiotic sensitivity testing and reporting.

2. Hospital cross-infections: the laboratory's role in their control.

3. The significance of staphylococcal phage typing.

Panel members: Robert Austrian, Department of Medicine, Kings County Hospital, Brooklyn; Louise Goode, Department of Microbiology, Columbia College of Physicians and Surgeons, N.Y.C.; Preston Price, Department of Pathology, Valley Hospital, Ridgewood, N. J.; John E. Blair, Hospital for Joint Diseases, N.Y.C.; Marion Wilson, Microbiology Laboratory, St. Luke's Hospital, N.Y.C.

North Carolina Branch (Mary A. Poston,
Secretary-Treasurer)

November 8, 1958, North Carolina State College, Raleigh, N. C.

1. Some bacteriologic studies on wild animals in North Carolina. Nell Hirschberg, N. C. State Laboratory of Hygiene, Martin Hines, N. C. State Board of Health, and Robert Menges and Mildred Galton, C.D.C., Chamblee, Georgia.

2. The effect of partial sterilization of soils by chemicals upon differential microbial numbers, CO₂ activity, and rates of organic matter decomposition. Gerald H. Elkan, North Carolina State College, and W. E. Moore, Virginia Polytechnical Institute, Blacksburg, Va.

3. Inhibition of diaminopimelic acid decarboxylase activity in *Mycobacterium tuberculosis* by isonicotinic acid hydrazide. Hilda Pope Willett, Duke University School of Medicine, Durham.

4. Cross reactions to tuberculin in guinea pigs. William Johnston, Duke University School of Medicine, Durham.

5. Enumeration of meningopneumonitis virus particles by phase contrast microscopy. K. O. Smith and G. P. Manire, University of North Carolina School of Medicine, Chapel Hill.

6. Adaptation of meningopneumonitis virus to growth in HeLa cell cultures. George Galasso and G. P. Manire, University of North Carolina School of Medicine, Chapel Hill.

"The newer diagnostic methods for syphilis" was the subject of the address at the dinner meeting by Dr. Warfield Garson, Department of Experimental Medicine, School of Public Health, Chapel Hill, N. C.

North Central Branch (Marion Jones,
Secretary-Treasurer)

October 24-25, 1958, Mayo Clinic, Rochester, Minnesota.

1. Enteroviruses isolated during polio seasons of 1957 and 1958. Marion K. Cooney, Henry Bauer, and Lloyd E. Boyd, Minnesota Department of Health, Minneapolis.

2. Variables in the isolation and propagation of herpes simplex virus in cell cultures. Del R. Dubbs, University of Minnesota, Minneapolis.

3. Cytopathogenic effects of hemadsorption virus type I. R. Q. Marston, University of Minnesota, Minneapolis.

4. Influence of Cocksackie B-3 virus infection on transaminase and cathepsin activities of HeLa cells in culture. R. L. Crowell and J. T. Syverton, University of Minnesota, Minneapolis.

5. Immunologic responses of rabbits to multiple immunizations with vaccinia virus. Eugene C. Pirtle, State University of South Dakota, Vermillion.

6. Modification of input actinophage by host-parasite interactions. S. G. Bradley, University of Minnesota, Minneapolis.

7. A β -globulin inhibitor of the hemagglutination test. R. R. Rafajko, A. P. McKee, and W. S. Jeter, State University of Iowa, Iowa City.

8. Studies on the metabolism of germinating agents by aerobic spores: alanine deamination. Richard O'Connor and Harlyn Halvorson, University of Wisconsin, Madison.

9. Stimulation of electron transport in spore extracts by dipicolinic acid. Roy Doi and Harlyn Halvorson, University of Wisconsin, Madison.

10. Some characteristics of isolated components of the proteolytic system of *Bacillus larvae*. N. G. Patel and T. A. Gochnauer, University of Minnesota, Minneapolis.

11. Transamination in *Leptospira biflexa*. A. J. Markovetz and A. D. Larson, State University of South Dakota, Vermillion.

12. On the mechanism of carbon dioxide fixation. C. L. Baugh, Daryl Bates, and C. H. Werkman, Iowa State College, Ames.

13. Some aspects of nitrogen fixation by the pseudomonads. Michael H. Proctor and P. W. Wilson, University of Wisconsin, Madison.

14. Intermediates in the microbial oxidation of alkanes. James E. Stewart and R. E. Kallio, State University of Iowa, Iowa City.

15. Fluorescent antibody technique with *Staphylococcus aureus*. P. B. Smith, J. B. Wilson, and E. McCoy, University of Wisconsin, Madison.

16. The application of the gel precipitin test to a number of antigen-antibody systems. E. J. Lazear, Fort Dodge Laboratories, Fort Dodge, Iowa.

17. Epidemiology of boils. I. M. Smith, State University of Iowa, Iowa City.

18. Effects of antibiotics on the vitamin B₆ content of *Escherichia coli* cultures. B. C. Dealmeida Cunha and K. R. Johansson, University of Minnesota, Minneapolis.

19. The effect of penicillin upon the morphology and gram staining characteristics of several lactic acid bacteria. R. W. Baughman and F. E. Nelson, Iowa State College, Ames.

20. Some effects of antibiotics on a *Candida albicans* population in the intestinal tracts of chickens. R. Winans and E. C. Berry, South Dakota State College, Brookings.

21. The infectivity of nutritional mutants of *Trichophyton mentagrophytes*. H. Kammer and S. G. Knight, University of Wisconsin, Madison.

22. Studies on the compatibility system of *Streptomyces coelicolor*. D. L. Anderson and S. G. Bradley, University of Minnesota, Minneapolis.

23. Studies on the symbiotic stage of *Rhizobium japonicum*. F. J. Bergersen, University of Wisconsin, Madison.

Northwest Branch (Jane Nishio,
Secretary-Treasurer)

September 26 and 27, 1958, State College of Washington, Pullman, Washington.

1. Factors affecting the lethality of bacterial photosensitization by 8-methoxypsoralen to long wave length ultraviolet irradiation. Evelyn L. Oginsky, G. Sheldon Green and W. L. Fowls, Departments of Bacteriology and Dermatology, University of Oregon Medical School, Portland, Oregon.

2. Post-irradiation release of phosphorus by yeast. R. T. O'Brien, Biology Operation, Hanford Laboratories, General Electric Company, Richland, Washington.

3. Endogenous respiration of yeast. Norman R. Eaton, Veterans Administration Hospital and Departments of Microbiology and Medicine, University of Washington, Seattle, Washington.

4. Physical and chemical properties of the thermostable alpha-amylase produced by *Bacillus stearothermophilus*. Gilbert B. Manning and L. Leon Campbell, Jr., Laboratory of Microbial Biochemistry, Institute of Agricultural Sciences, State College of Washington, Pullman, Washington.

5. Some properties of the beta galactosidase of mouse organs and mouse strain L cells. Joseph J. Maio and H. V. Rickenberg, Department of Microbiology, University of Washington, Seattle, Washington.

6. Separation of protein and nucleic acid components of polio virus preparations. Bill H. Hoyer, Ellis T. Bolton, Daniel B. Ritter, and Robert K. Gerloff, Rocky Mountain Laboratory, Hamilton, Montana, and Carnegie Institution of Washington, Washington, D. C.

7. Delayed hypersensitivity and X-irradiation. S. B. Salvin, Jane Nishio, and Robert F. Smith, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Rocky Mountain Laboratory, Hamilton, Montana.

8. The detection of leptospiral antigen in bovine urine by means of a hemolytic reaction. Leif Ringen, Department of Veterinary Microbiology, State College of Washington, Pullman, Washington.

9. Experimental and field studies with botulism toxoids in mink. R. Keith Farrell, Fur Animal Disease Research Station, State College of Washington, Pullman, Washington.

10. Some activities of the cell wall and protoplasm from *Bordetella pertussis*. J. Munoz, E. Ribi, and C. Larson, Department of Bacteriology, Montana State University, Missoula, and Rocky Mountain Laboratory, Hamilton, Montana.

11. The taxonomy and carbohydrate metabolism of carbon dioxide-producing lactic acid streptococcus organisms. W. E. Sandine, P. R.

Elliker, and A. W. Anderson, Oregon Agricultural Experiment Station, Corvallis, Oregon.

12. The enumeration and classification of fusiform bacteria from the oral cavity. Maurice E. Goulet, Department of Bacteriology, University of New Hampshire, Durham, N. H., and Department of Bacteriology and Public Health, State College of Washington, Pullman, Washington.

13. The nature of the commensal bacterial flora of marine fish. John Liston, College of Fisheries, University of Washington, Seattle, Washington.

14. Bioassay for thiamine using *Flavobacterium aquatile* strain Taylor. Owen B. Weeks and Sidney M. Beck, Department of Bacteriology, University of Idaho, Moscow, Idaho.

15. Boron and *Azotobacter*. Guy R. Anderson and James V. Jordan, Departments of Bacteriology and Agricultural Chemistry, University of Idaho, Moscow, Idaho.

16. Studies on the growth requirements of a cellulolytic coccus (*Ruminococcus albus*) from the bovine rumen. D. W. Fletcher, Department of Bacteriology & Public Health, State College of Washington, Pullman, Washington.

17. Some aspects of the microbiology of the bloated dwarf rumen. D. W. Fletcher and E. S. E. Hafez, Department of Bacteriology and Public Health and Department of Animal Science, State College of Washington, Pullman, Washington.

Eastern Pennsylvania Branch (Elizabeth H. Fowler, Secretary-Treasurer)

October 28, 1958, University of Pennsylvania, Philadelphia, Pennsylvania.

1. Development of germ-free animal research. Martin Forbes, Department of Microbiology, School of Medicine, Temple University.

2. Role of intestinal flora in the growth response of chicks to dietary penicillin. Martin Forbes, J. T. Park, and M. Lev, University of Pennsylvania and Walter Reed Army Institute of Research.

3. The problem of natural antibodies studied in germ-free and conventional chicks. Georg F. Springer, R. E. Horton, and M. Forbes, Immunology Section, Pepper Laboratory, Hospital of the University of Pennsylvania and Walter Reed Army Institute of Research.

Rio de Janeiro Branch (Vinicius M. Dias, Secretary-Treasurer)

August 30, 1958. A joint meeting with the Rio de Janeiro Section of the "Sociedade Brasileira de Microbiologia" was held at Instituto Vital, Brasil.

1. Studies on the nutrition of *Saccharomycopsis guttulata*. A. Cury and S. H. Hutner, Instituto de Microbiologia, D.F.

2. Resistance of salmonellae to macrophages in cell culture as an index of their virulence. I. Ferreira and G. Furness, Instituto de Micro-

biologia da Universidade do Brasil, D.F., and Wright-Fleming Institute, Paddington, London. (Work performed while at the Department of Microbiology, University of Pittsburg.)

Southeastern Branch (Mrs. Louise Cason,
Secretary-Treasurer)

October 17 and 18, 1958. Radium Springs, Albany, Georgia.

1. Significance of single physiological characteristics in the grouping of marine bacteria. D. B. Pratt, M. Bielling, and M. E. Tyler, University of Florida, Gainesville, Florida.

2. Antigenic types of avian PPLO. A. L. Kleckner, University of Georgia, Athens, Georgia.

3. The antigens of the Genus *Brucella*. J. W. Foster, University of Georgia, Athens, Georgia.

4. Cultural variations in *Nocardia asteroides* isolates. N. M. McClung, University of Georgia, Athens, Georgia.

5. Ocular monosporiosis. M. A. Gordon and W. W. Vallotton, Medical College of South Carolina, Charleston, South Carolina.

6. Fungus culture work in a small public health laboratory—a challenge. F. H. Stubbs, Georgia Department of Public Health, Albany, Georgia.

7. Identification of *Azotobacter* species by serological techniques. W. C. Ballard and M. Green, University of Alabama, University, Alabama.

8. Metabolic and antibiotic patterns of staphylococci isolated from a hospital population. M. Miller, M. Schreiber, N. J. Schneider, and M. Herzberg, Florida State Board of Health, Jacksonville, Florida, and University of Florida, Gainesville.

9. A case of generalized vaccinia infection. J. M. Byne, Jr. and J. E. McCroan, Georgia Department of Public Health, Atlanta, Georgia.

10. The urine culture. William Blum, MacDill Air Base, Florida.

11. Vesicular stomatitis in Georgia. L. Karstad, O. K. Fletcher, and J. E. McCroan, Georgia Department of Public Health, Albany, Georgia.

12. Glycyl phosphate formation during the ATP-dependent carboxyl activation of glycine. M. J. Cormier, M. P. Stulberg, and G. D. Novelli, University of Georgia, Athens, Georgia.

13. Some aspects of the metabolism of alginic and mannuronic acids by a marine bacterium. J. P. Eller and W. J. Payne, University of Georgia, Athens, Georgia.

14. Pathway of glucuronate metabolism in bacteria. R. A. McRorie and W. J. Payne, University of Georgia, Athens, Georgia.

15. Some properties of uronic isomerases from plant pathogenic bacteria. W. J. Payne and R. A. McRorie, University of Georgia, Athens, Georgia.

16. Biochemical oxidation of the lower fatty acids. Materials balance. P. E. Gaffney, Georgia Institute of Technology, Atlanta, Georgia.

17. Non-sedimentable enzyme systems and cytochrome pigments in sonic extracts of *Pseudomonas aeruginosa*. R. G. Eagon and A. K. Williams, University of Georgia, Athens, Georgia.

18. Mannose metabolism and mannan synthesis by *Pseudomonas aeruginosa*. A. K. Williams and R. G. Eagon, University of Georgia, Athens, Georgia.

19. Mutation in a strain of *Mycobacterium*, ATCC #607. W. B. Redmond, Veterans Administration Hospital, Atlanta, Georgia.

20. Bacteriophage D29K studies on virulent and avirulent mycobacteria. R. J. Gibson and W. B. Redmond, Veterans Administration Hospital, Atlanta, Georgia.

21. Nitrifying bacteria: a review of recent Soviet research. W. S. Silver and E. Kirsanow, University of Florida, Gainesville, Florida.

22. The virulence of auxotrophs of *Salmonella typhimurium*. M. Herzberg, and J. Cresce, University of Florida, Gainesville, Florida.

23. Some strains of *E. coli* found in a small hospital. W. H. Hewitt, LaGrange, Georgia.

24. Nutritional requirements of mammalian cells: response of strain HeLa to human serum and other nutritional components. L. P. Carter and R. W. Brown, Tuskegee Institute, Tuskegee Institute, Alabama.

25. Growth of pathogenic bacteria in the cells of tissue culture. C. C. Shepard, Communicable Disease Center, Montgomery, Alabama.

26. Problems of microbial virulence. M. Tager, Emory University Medical School, Atlanta, Georgia.

Dr. P. R. Edwards, Vice-President of the Society, spoke at the dinner meeting on "History of the International Association of Microbiological Societies." Dr. Edwards is at the Communicable Disease Center, U.S.P.H.S., Chamblee, Georgia.

Texas Branch (Capt. Irving Davis,
Secretary-Treasurer)

November 14-15, 1958, Texas A & M College, College Station, Texas.

1. Antibiotic prophylaxis of human psittacosis infections. Morris Pollard, Department of Preventive Medicine and Public Health, University of Texas Medical Branch, Galveston.

2. Properdin, lysozyme and normal serum bactericidins for *Shigella*. Richard A. Finkelstein and L. Marshall Roch, Department of Microbiology, The University of Texas Southwestern Medical School, Dallas.

3. Further observations on laboratory tests for aseptic meningitis. Carolyn Gabriel and J. V. Irons, Division of Laboratories, State Health Department, Austin.

4. Tissue culture studies with mouse hepatitis virus. T. J. Starr and Morris Pollard, Department

of Preventive Medicine and Public Health, University of Texas Medical Branch, Galveston.

5. Influence of environmental temperature on pathogenesis of rabies in insectivorous bats. S. Edward Sulkin, Rae Allen, Philip H. Kruttsch, and Craig Wallis, Department of Microbiology, The University of Texas Southwestern Medical School, Dallas.

6. Effect of heparin on neomycin. R. D. Higginbotham, Department of Microbiology, University of Texas Medical Branch, Galveston.

7. Some electron microscopic observations on virulent and avirulent *Bacillus anthracis*. Ivan L. Roth, Willard Lewis, Virology and Electron Microscopy Section, The University of Texas, M. D. Anderson Hospital and Tumor Institute, Houston; Kwei-Chao Chao, and Robert P. Williams, Department of Microbiology, Baylor University, College of Medicine, Houston.

8. Studies on the agglutination inhibitory mechanism in *Vibrio cholera*. Sanders T. Lyles, Department of Biology, Texas Christian University, Ft. Worth.

9. Lysogenic relationships in coagulase positive staphylococci. Eugene D. Rosenblum and Clifton E. Dowell, Department of Microbiology, The University of Texas Southwestern Medical School, Dallas.

10. Gel diffusion studies of toxin versus toxoid reactivity with antitoxin. Jimmie Lee Flume and V. T. Schuhardt, Department of Bacteriology, The University of Texas, Austin.

11. Correlation of complement fixation and virus culture in aiding in laboratory diagnosis of poliomyelitis. Thelma D. Sullivan and Alice Conklin, Division of Laboratories, State Health Department, Austin.

12. Localization and fate of *Escherichia coli* in experimental hematogenous pyelonephritis. Betty W. Hunter, Paul Donaldson, and Jay P. Sanford, Department of Internal Medicine and Microbiology, The University of Texas Southwestern Medical School, Dallas.

13. Studies of *Tinea pedis* in medical students. II. Rising incidence. Etta Mae Macdonald and Mildred J. Wegner, Department of Microbiology, University of Texas Medical Branch, Galveston.

14. Phage typing and antibiotic sensitivity patterns. W. Fahlberg, E. Yow and J. Felder, Department of Microbiology, Baylor University College of Medicine, Houston.

15. Observations on the so-called "Burn Endotoxin." C. D. Graber, A. C. Contreras and R. Brame, U. S. A. Surgical Research Unit, Ft. Sam Houston.

16. Effect of oxygen tension on growth of tubercle bacilli from surgical specimens. L. Ruth Guy and Joanna Bernard, Department of Microbiology, The University of Texas Southwestern Medical School, Dallas.

17. Urinary tract flora of the burn patient and the antibiotic sensitivity problem. Russell Brame and C. D. Graber, U. S. Surgical Research Unit, Brooke Army Medical Center, Ft. Sam Houston.

18. Pigment production by *Bacillus anthracis*. Kwei-Chao Chao and Robert P. Williams, Department of Microbiology, Baylor University College of Medicine, Houston.

19. Avirulent variants of *Bacillus anthracis*: Their non-identity with *Bacillus cereus*. Kenneth L. Burdon and Reuben D. Wende, Department of Microbiology, Baylor University College of Medicine, Houston.

20. Growth of staphylococci and production of coagulase. J. Marston and W. J. Fahlberg, Department of Microbiology, Baylor University College of Medicine, Houston.

21. Stimulation of *Clostridium* spore germination at 75 C by carcinogens. Yoetsu Hachisuka, E. Staten Wynne, L. T. Galyen and Laura L. Jenkins, University of Texas Dental Branch, Texas Medical Center, Houston.

22. Isolation and properties of a DPNH oxidizing enzyme of *Streptococcus faecalis*. N. P. Wood, Biology Department, Texas A & M College, College Station, and M. I. Dolin, Biology Division Oak Ridge National Laboratories, Oak Ridge, Tennessee.

23. The relation of temperature and moisture to the survival and multiplication of selected bacteria subjected to a simulated Martian Environment. Irving Davis, Captain, USAF (MSC), Charles E. Craft, and John D. Fulton, Lt. Colonel (MSC) USAF, Department of Microbiology, Cellular Biology, School of Aviation Medicine, U.S.A.F., Randolph Air Force Base.

24. Growth studies on the cotton root-rot fungus, *Phymatotrichum omnivorum*. II. Effect of micro-organic amendments. Ralph J. Hervey, Substation No. 5, Texas Agricultural Experiment Station, Temple.

25. Microbiological studies of phosphorus availability. J. N. Baruah, B. L. Reid and J. R. Couch, Department of Biochemistry and Nutrition and Poultry Science, Texas Agricultural Experiment Station, College Station.

26. The relationship between several macromolecular cell constituents and radiosensitivity in *Escherichia coli*. Daniel Billen, The University of Texas, M. D. Anderson Hospital and Tumor Institute, Department of Biology, Section of Microbiology, Houston.

27. Effect of the microbial production of H₂S and CO₂ on the pH of sediments. Carl H. Oppenheimer and Louis Kornicker, Institute of Marine Science, University of Texas, Port Aransas.

28. Assay of unidentified growth factors. H. O. Wheeler, V. M. R. Murthy, H. D. Stelzner, B. L. Reid and J. R. Couch, Department of Biochemis-

try and Nutrition and Poultry Science, Texas A & M College, College Station.

29. Anomalous concentrations of hydrocarbon oxidizing microbes in soil. J. B. Davis, R. L. Raymond and J. P. Stanley, Magnolia Petroleum Co., Field Research Labs., Dallas.

Professor E. M. Foster of the Department of Bacteriology, University of Wisconsin, Madison, gave the I. M. Lewis lecture at the dinner meeting on November 14. His subject was "A Microbe's View of Dairyland." Dr. Foster, who is Secretary of the Society, also spoke briefly to the branch about S.A.B. affairs.

Washington, D. C. Branch (Charlotte C. Campbell, Secretary-Treasurer)

February 25, 1958. Walter Reed Army Institute of Research, Washington, D.C.

1. Studies on experimental shigellosis. Thomas M. Floyd. Naval Medical Research Institute, Bethesda, Md.

2. Hemagglutination and hemagglutination inhibition tests against shigellae and predominant coliform flora in cases of infant diarrhea. Viola M. Young, Minnie R. Sochard, and John J. Hemphill, Walter Reed Army Institute of Research, Washington, D.C.

3. Susceptibility and resistance to some bacterial diseases among several strains of eastern brook trout. S. F. Snieszko, E. C. Dunbar and G. L. Bullock, Eastern Fish Disease Laboratory, Fish and Wildlife Service, Interior Department, Kearneysville, West Virginia.

March 25, 1958. Walter Reed Army Institute of Research, Washington, D.C.

1. Neoplasms in mice and hamsters induced by tumor agent carried in tissue culture.

(a) In the mouse. Sarah M. Stewart, National Cancer Institute, National Institutes of Health, Bethesda, Md.

(b) In the hamster. Bernice Eddy, Division of

Biologic Standards, National Institutes of Health, Bethesda, Md.

2. A genetic approach to the study of *Rickettsia prowazekii*. E. Weiss, H. R. Dressler, and E. C. Suitor, Jr., Naval Medical Research Institute, Bethesda, Md.

3. Genetic studies with psittacosis virus. F. B. Gordon, H. K. Mamay and R. W. Trimmer, Naval Medical Research Institute, Bethesda, Md.

May 27, 1958. Armed Forces Institute of Pathology, Washington, D.C.

1. The mode of action of oxamycin. Jennie Ciak, Walter Reed Army Institute of Research, Washington, D.C.

2. The experimental host range among invertebrates of arthropod-borne animal viruses. H. W. Hurlbut and John I. Thomas, Naval Research Institute, Bethesda, Md.

3. Typing of adenoviruses by the *in vitro* complement fixation technique. Leonard N. Binn, Walter Reed Army Institute of Research, Washington, D.C.

October 28, 1958. Walter Reed Army Institute of Research, Washington, D.C.

1. Observations on PPLO's and L forms in Japan. Michael Barile, Division of Biological Standards, National Institutes of Health, Bethesda, Md., Reizo Yaguche, 406 Medical General Laboratory, Tokyo, and Warren C. Eveland, Armed Forces Institute of Pathology, Washington, D.C.

2. Isolation of the L forms of *Corynebacterium* from febrile episodes of a case of congenital heart disease. Ruth G. Wittler, W. F. Malizia, P. E. Kramer, H. N. Pritchard and H. J. Baker, Walter Reed Army Institute of Research, Washington, D.C.

3. Report from the National Society. E. M. Foster, Secretary, Society of American Bacteriologists.

BOOKS AND REVIEWS

The Metabolism of Sulphur Compounds, Leslie Young and G. A. Maw, New York: John Wiley & Sons, Inc., 1958, 180 pp., \$3.00.

Serological and Biochemical Comparisons of Proteins, W. H. Cole, Editor, New Brunswick, N. J.: Rutgers University Press, 1958, 119 pp., \$2.00.

Disinfection and Sterilization, G. Sykes, Princeton, N. J.: D. Van Nostrand Co., Inc., 1958, 396 pp., \$10.75.

The Interference Microscope in Biological Research, A. J. Hale, Baltimore: The Williams & Wilkins Company, 1958, 114 pp., \$5.00.

Annual Review of Microbiology, Volume 12,

C. E. Clifton, Editor, Palo Alto, California: Annual Reviews, Inc., 1958, 581 pp., \$7.00 (\$7.50 outside U.S.).

Chemical Transformations by Microorganisms, Frank H. Stodola, New York: John Wiley & Sons, Inc., 1958, 134 pp., \$4.25.

Men, Molds, and History, Felix Marti-Ibañez, New York: MD Publications, Inc., 1958, 114 pp., \$3.00.

Advances in Enzymology, Volume 20, F. F. Nord, Editor, New York: Interscience Publishers, Inc., 1958, 488 pp., \$12.50.

This volume, as the preceding ones of the series,

is composed of reviews that vary greatly in their significance to the microbiologist. Kalckar's review on Uridinediphosphogalactose: Metabolism, Enzymology, and Biology deals with the enzymology, genetics and adaptation phenomena of the subject. Slater, in *The Constitution of the Respiratory Chain in Animal Tissues*, presents a comprehensive review of this fast developing subject that should be of interest to many physiologists. Likewise Vischer and Wettstein in *Enzymatic Transformations of Steroids by Microorganisms* thoroughly cover a fast developing and specialized field of enzymology.

Other reviews that may be of interest depending upon one's special interests are: *Possible Relation between Optical Activity and Aging*, by Werner Kuhn; *Kinetics and Equilibria in the Liver Alcohol Dehydrogenase System*, by Hugo Theorell; *The Roles of Imidazole in Biological Systems*, by E. A. Barnard and W. D. Stein; *Neuraminidase: Its Substrate and Mode of Action*, by Alfred Gottschalk; *Enzymology of the Plastids*, by N. M. Sissakian; *The Mechanism of Hydrolysis by Cholinesterase and Related Enzymes*, by D. R. Davies and A. L. Green; *The Biosynthesis of Dicarboxylic Amino Acids and Enzymic Transformations of Amides in Plants*, by W. L. Kreto- vich; *Pectic Substances and Pectic Enzymes*, by H. Deuel and E. Stutz; *Antibiotics and Plant Diseases*, by Fred W. Tanner, Jr., and Samuel C. Beesch.

S. G. KNIGHT

The Dynamics of Bacterial Populations Maintained in the Chemostat. Hermann Moser, Washington D. C.: Carnegie Institution of Washington, 1958, 136 pp, \$1.15 (cloth, \$1.40).

The author of this monograph does not emphasize the particular advantages of the use of the chemostat for the maintenance and study of continuously growing microbial cultures in well-defined nutrient media. Nor does he emphasize that the experimenter can select precisely, and independently, both bacterial concentration and culture growth rate, and that the age of the culture is determined by the measurement of the volume of nutrient used up. The uninitiated would not find it immediately obvious, furthermore, that the chemostat is a dilution device for transforming the exponential growth characteristics of microbial cultures to essentially linear functions, thereby allowing greater precision of measurement than was formerly possible.

This monograph is rather, a heavily mathematical contribution to theory: primarily, the solutions of the differential equations describing the dynamics of rather homogeneous bacterial cultures and their mutants, all reproducing asexually. These solutions describe the stable states of growth and mutation-selection equilibria and

their transitions to other steady states during population changes. The solutions are derived under several assumptions. First, it is assumed that individual cells grow, without interaction, by regular binary fission in a population under complete mixing in the growth vessel. Second, that the growth rate of the culture is proportional to the concentration of the limiting nutrient within the growth vessel. The third assumption is that phenotypic delay in the appearance of the newly-formed mutant has negligible effect upon the equations. Before an investigator may apply these solutions to his data he must take care that these assumptions are valid for his case. The reviewer has, at one time or another, found violations of each of these assumptions.

These equations describe in mathematical detail, and their applications establish analytically, a number of phenomena already observed or suspected: quasi-steady states of growth and of selection-mutation equilibria are established in a non-oscillatory manner, these equilibria are shifted to new quasi-steady states when selection occurs for a new mutant, and the accumulation of mutants depends upon the interplay of the pressures of specific and non-specific selection. The behavior of the solutions is shown graphically for a large number of hypothetical cases (that is, for several values of the parameters), as well as for examples drawn from the experiments of the author. Many of the latter appear in an extensive chapter upon the application of these equations to the growth of bacteria in the chemostat. This chapter also includes approximation formulae to reduce the work of fitting the data.

This monograph describes the dynamics of one of the simplest existing populations, one which may become a proving ground for testing new ideas. For investigators in the field of population dynamics this work should be required reading. Perhaps just as important, study of this monograph should give a better understanding of the phenomena occurring in the chemostat, and this should encourage more microbiologists to consider the use of this device for their particular problems.

HERBERT E. KUBITSCHKE

Bakteriochemie. E. M. Gubarjew, Jena: Gustav Fischer Verlag, 1958, 218 pp. \$7.00. (Available in U. S. from Dr. Frederic Freund, 120 Riverside Drive, New York 24, N. Y.)

This is a German translation by Dr. Margarita Mannsfeld of the original edition, which was published in Russia in 1952. The author is Professor of Biochemistry at the Rostov Medical Institute and the Rostov Institutes for Epidemiology and Microbiology.

Four chapters on the composition of bacteria deal with lipids, polysaccharides, proteins and

minerals. The chapter on proteins includes a section on the chemistry of viruses. A chapter on the chemistry of bacterial toxins and another on growth factors complete the book.

Although the book is primarily a general survey of the chemical composition of bacteria, occasionally the author departs from this type of treatment and includes minute details of experimental procedures and results. The fact that some detailed information is included does not add particularly to the usefulness of the book as a reference source for the worker in the field since it is, in general, too elementary for this purpose. Scientists in fields other than bacteriology might find the book useful as a means of gaining a general knowledge of the chemical make-up of bacteria. However, there is nothing unique about the material in this book, and to the English-speaking scientist there are available other more up to date treatments of the subject in English.

CURTIS B. THORNE

Recommended Methods for the Microbiological Examination of Foods. Subcommittee on Methods for the Microbiological Examination of Foods of the Coordinating Committee on Laboratory Methods of the American Public Health Association. Published by that association, 1958, 207 pp., \$4.50.

This well organized manual will be useful to all laboratory workers in food microbiology, helpful in the laboratory teaching of that subject, and invaluable to personnel of public health or other control laboratories. As the title indicates, the methods described are recommended rather than standard, but they undoubtedly will be considered authoritative by most food microbiologists.

The volume covers the microbiological examination of bottled soft drinks, brined, salted and pickled vegetable products, canned foods, carbohydrate products, cereals and cereal products, dehydrated fruits and vegetables, eggs and egg products, fermented foods, fruit juices and concentrates, frozen fruits, vegetables and precooked frozen foods, mayonnaise, salad and French dressings, meat and meat products, poultry meat and spices. An introductory chapter briefly discusses sampling and handling of samples, and sampling also is described at the start of each chapter. At the end of each chapter is a section on the interpretation of results. Also included are chapters on sanitation indexes and the detection and enumeration of food poisoning organisms. The appendix describes 73 culture media and gives formulas for stains, reagents and indicators. It is gratifying to observe that methods and culture media have been kept simple, for the most part, as they should be for routine examinations.

W. C. FRAZIER

Antisera, Toxoids, Vaccines and Tuberculin in Prophylaxis and Treatment, 4th Edition. H. J. Parish, Baltimore: The Williams & Wilkins Co. (American Agents), 1958, 255 pp., \$7.00.

This is a curious little book, and though the author indicates that it is directed primarily at practitioners and medical students I am not sure that these groups would be greatly interested in many portions of the book. Its treatment of Immunology is too brief and too superficial to be of value to the graduate student or research worker. The technical details of administering antisera and the production of antisera seem accurate enough—and would be of interest to persons who were going to prepare antisera. The devotion of a number of pages to such subjects as active immunization against scarlet fever and against staphylococcus infections, not to mention several pages devoted to unused substances such as erysiploid, anthrax and leptospira antisera seems odd when the author states in the preface, "Although regrettable, the increase in the size and cost of this book has been unavoidable, being the result of important advances." Along this same line the inclusion of full page photographs of a serum concentration plant, (which might just as well be a bakery), a picture of bags of antitoxin undergoing dialysis, a horse, a room full of bottles of horse blood, eggs being inoculated, eggs being harvested, an intriguing picture of an operator facing a large freeze-drying apparatus and a pair of Mars-suited individuals taking a sample of poliomyelitis vaccine from a large cylinder, seem remarkable if cost was a factor. Though many of the sections are factually accurate and well written, I still do not know just what individuals the author had in mind when he assembled such a variety of subject matter.

THOMAS FITE PAINE, JR.

Yeasts. W. Roman, Editor, New York: Academic Press, 1958, 246 pp., \$7.50.

The literature on yeast technology is voluminous and accentuates the need for compilation of this information into a single reference work. The diversity of industrial applications and the necessity for specialized knowledge in cytology, physiology, biochemistry, and technology, however, make a comprehensive and authoritative coverage of the subject by one man a near impossibility. Dr. Roman has tried to circumvent this difficulty by assembling a series of articles, each written by a specialist.

The chapter on Brewer's Yeast (R. S. W. Thorne) is comprehensive, well organized, and supplemented with an excellent and extensive bibliography. The chapter on Food and Fodder Yeast (A. C. Thaysen) contains much valuable information on preparation of high protein *Torulopsis utilis*. A brief chapter on Sake and

Similar Yeast (Kei Arima) has special appeal because of the previous lack of information on this subject. The chapter on Baker's Yeast (M. Pyke, W. J. Nickerson, and A. S. Schultz) is composed of essentially unrelated sections dealing with culture media, biology and chemistry, and industrial production. Wine and Fruit Yeast (H. N. Schanderl) provides most inadequate coverage and, in contrast to the extensive bibliographies prepared by other contributors to the volume, contains only twelve literature citations. The final chapter, Yeast Preparations, (M. Pyke) enumerates preparations intended for use in clinical medicine and human nutrition and those employed for technical purposes.

Although *Yeasts* contains much valuable information, it is, on the whole, a very disappointing book. Errors in grammar, spelling, transcription of data, interpretation of reference material, etc. are

numerous. Titles of journals are abbreviated with complete lack of uniformity. The *Journal of Bacteriology*, for example, is variously listed as *Jl. Bact.*, *Jl. Bacteriol.*, *J. Bact.*, and *J. Bacteriol.* with at least two of these forms used in each of several of the individual chapter bibliographies. In addition to the many irritating errors, there is perhaps a more serious fault. In assigning coverage on the basis of yeast usage Dr. Roman has permitted repetitious discussion of yeast composition, carbohydrate and amino acid metabolism, etc. In several chapters the reader is consequently faced with the temptation to compare data cited in one chapter with almost identical data related in detail in another chapter. This book is a worthwhile addition to the basic literature on yeast but loses much of its potential effectiveness because of the numerous errors it contains.

STUART L. ADAMS

NEW MEMBERS

New Active Members

Sept 17, 1958 through Nov 6, 1958

Acton, Horace C., P. O. Box 162, College Sta., Pullman, Wash.
 Alli, Joseph H., 3418 Rocklyn Dr., Des Moines 10, Ia.
 Baker, Claude S., 249 Shady Lane, Downers Grove, Ill.
 Blair, Richard W., 208 N. Harrison, Pierre, S. D.
 Brown, Milton H., 732 9th Ave., Helena, Mont.
 Bryant, Marvin P., Dairy Cattle Res. Br., Agricul. Res. Center, Beltsville, Md.
 Canada, James C., 3816 Stratford Rd., Evansville, Ind.
 Carrier, Ernest B., 10221 Cletus Dr., Baton Rouge, La.
 Claus, George W., 1308 18th St., Des Moines 14, Ia.
 Coghlan, Anne E., Colby Jr. College, New London, N. H.
 Costie, James A., U.S. 51411543, 9766 T.U. Cml. C., Ft. Detrick, Md.
 Dinkins, Judson D., 186-46 Jordan Ave., St. Albans 12, N. Y.
 Donahue, Margaret F., Horns Mill, Star Rt., Sanbornville, N. H.
 Dorigan, Frances D., 6041 S. Paulina St., Chicago 36, Ill.
 Eber, Judith Udren, 210 Elmdorf Ave., Rochester 19, N. Y.
 Ferguson, Hallie J., Dept. 782-41-2, The Upjohn Co., Kalamazoo, Mich.
 Gamski, Peter, Jr., 359 Gaskill St., Woonsocket, R. I.

Gibson, Robt. J., 1168 Oglethorpe Ave., N.E., Atlanta 19, Ga.
 Grilione, Patricia L., 581 Yosemite Ave., Fresno 4, Calif.
 Hait, Penelope K., Special Research Unit, Communicable Disease Center, P. O. Box 185, Chamblee, Ga.
 Hall, Mary L. M., Chemical Laboratory, Canada Packers, 1260 Mill St., Montreal, Quebec, Can.
 Hamilton, Lynn, 308 W. 26th St., Austin, Tex.
 Hashimoto, Tadayo, Dept. of Bact., Univ. of Mich., Ann Arbor, Mich.
 Hayashi, Hajime, Dept. of Microbiology, Mich. State Univ., East Lansing, Mich.
 Hoag, Eleanor E., Box 995, Hanover, N. H.
 Hopkins, Gwynfryn, 4528 Univ. Blvd., Dallas 5, Tex.
 Hougland, Arthur E., Dept. of Bact., Univ. of Tenn., Knoxville, Tenn.
 Jackson, LeRoy E., Dept. of Bact., Univ. of Tex., Austin 12, Tex.
 Jakubowski, Virginia A., Crandall-C, Univ. of Conn., Storrs, Conn.
 Jedlicka, Glen J., 421 Shenstone Rd., Riverside, Ill.
 Kennedy, Douglas W., 609 14th Ave., Brookings, S. D.
 King, Alvin Arthur, P. O. Box 32, Hugo, Okla.
 Kutow, Tom Toshiyuki, Dept. of Legal Med., School of Medicine, Herosaki Univ., Herosaki, Aomori-Ken, Japan
 LaGrange, Wm. S., Dairy & Food Ind., Iowa State College, Ames, Iowa
 Langston, C. W., 10508 Edgemont Dr., Adelphi, Md.

- Lee, Chang Koo, Natl. Inst. for Vet. Res., 622 Am-Nam Dong, Pusan, Korea
- Lewengrub, Stanley J., Dept. of Vet. Sci., Utah State Univ., Logan, Utah
- Liston, John, Fisheries Center, Univ. of Wash., Seattle, Wash.
- Liverpool, Toussaint A. L., 13 Second St., Framingham, Mass.
- London, Jack P., 12209 LaMaida St., North Hollywood, Calif.
- Lorah, Martha C., 410 Lathrop Rd., Columbia, Mo.
- Magno, Elvira J., 115 Garden Ave., Belleville 9, N. J.
- Malsberger, Richard G., 2531 Springview Rd., Norristown, Pa.
- Mattaliano, Anthony S., 108 W. Foothill Blvd., Rialto, Calif.
- Maxey, Patricia T., 15 Harrison Ave., Helena, Mont.
- Maxwell, Kameron W., 1857 S. 3rd East, Salt Lake City, Utah
- Moore, Dorothy J., 820 Arlington, Jackson, Miss.
- Nabbut, Nassim H., Dept. of Bact., State College of Wash., Pullman, Wash.
- Naylor-Foote, A. W. C., Dept. of Infectious Diseases, U. C. L. A. Med. Center, Los Angeles 24, Calif.
- Netto, Gustavo R. Medeiros, Rua Itabuna 3, Salvador, Brazil
- Nimeck, Maxwell W., Dept. of Bact., Univ. of Texas, Austin, Tex.
- O'Connor, Richard J., Bact. Dept., Univ. of Wisc., Madison, Wisc.
- Philip, Cornelius B., Rocky Mountain Lab., U.S.P.H.S., Hamilton, Mont.
- Proctor, Michael H., Dept. of Bact., Univ. of Wisc., Madison, Wisc.
- Reid, Garth K., 4411 W. 7th Ave., Vancouver 8, B. C., Can.
- Rising, Judith A., 411 N. State St., Ann Arbor, Mich.
- Rogers, Thomas E., Dept. of Biological Science, Northwestern State College, Natchitoches, La.
- Rohlfing, Stephen, Box 200, Upham Hall, Miami Univ., Oxford, Ohio
- Schabel, Frank M., Jr., Southern Research Inst., 2000 9th Ave., Birmingham 5, Ala.
- Schlub, Louise Jane, 401 E. 32nd St., Chicago 16, Ill.
- Schwarz, Jan, Jewish Hosp. Lab., Cincinnati 29, Ohio
- Seekins, Janet G., Box 267, Belt, Mont.
- Selig, Theodora C., 3102 Graceland Dr., N.E., Albuquerque, N. M.
- Spence, Kemet D., 240 N. 23rd, Corvallis, Ore.
- Tesluk, Irene, 11 Ontario St., Buffalo 7, N. Y.
- Thomas, Donald Charles, 4114 St. William Ave., Cincinnati 5, Ohio
- Trautenberg, Gerald A., Microbiology Dept., Bristol-Myers Co., 225 Long Avenue, Hillside 5, N. J.
- Tunstall, Lucille H., 19994 Northlawn Ave., Detroit 21, Mich.
- Uesaka, Ichiro U., Dept. of Bact., Univ. of Ga., Athens, Ga.
- Van Ness, Frances G., 1505 Tropical Dr., Lake Worth, Fla.
- Vaughn, James L., Room 207, Dept. of Bact., Univ. of Wisc., Madison, Wisc.
- Weimer, Charles R., Dept. of Bact., Indiana Univ., Bloomington, Ind.
- Wilder, Curtis J., 506 Oak St., Pullman, Wash.
- Wolfe, Martin D., 105 Finn St., Madison, Tenn.
- Wooldridge, Corrine R., 829 N. Fess Ave., Bloomington, Ind.
- Worden, Charles E., Animal Ind. & Vet. Science, Univ. of Ark., Fayetteville, Ark.
- Wright, Donald N., USS Firm (MSO-444), c/o Fleet P. O. San Francisco, Calif.
- Yarbrough, Henry F., Field Research Lab., Magnolia Petroleum Co., Box 900, Dallas 21, Tex.
- Zachry, Abner S., 5511 Holston Dr, Knoxville 14, Tenn.

Sustaining Members

Falcon Plastic Products, 6020 W. Washington Blvd., Culver City, Calif.

Deceased Members

Evans, Robt. E., Medical Labs. Bldg., Iowa City, Iowa

The Society of American Bacteriologists

Welcomes to membership any person who is interested in its objects, which are "to promote scientific knowledge of bacteriology and related subjects through discussions, reports and publications, to stimulate scientific investigations and their applications, to plan, organize and administer projects for the advancement of knowledge in this field, and to improve professional qualifications."

Important in the accomplishment of these objectives are the Society's publications. These include (1) the monthly *Journal of Bacteriology* in which are found original communications on all branches of fundamental bacteriology and on the applications of bacteriology; (2) the quarterly *Bacteriological Reviews*, which contains review articles on subjects of current bacteriological interest; (3) the bi-monthly *Applied Microbiology*, which contains original papers on studies oriented toward the application of microbiological sciences to industry, foods, sanitation, agriculture and other areas involving the use or control of microorganisms; and (4) the quarterly *Bacteriological News*, which includes records of Society affairs, news and announcements, reviews of new books, reports from meetings of the Society's local branches, and anything else deemed to be of interest to bacteriologists.

The Society holds annual meetings where the latest results of research in all branches of bacteriology are presented, and where the members have exceptional opportunities to become acquainted and to discuss work in progress.

The Society operates a Placement Bureau to help bacteriologists find employment; it maintains a collection of pictures, films and other materials useful in teaching bacteriology, and it performs numerous other services of value to bacteriologists.

Annual dues are \$12.00, which includes subscriptions to the *Journal of Bacteriology*, *Bacteriological Reviews*, and *Bacteriological News*.

Applicants for membership must be nominated in writing by two members of the Society. An applicant who has paid the first year's membership dues and has been endorsed by a majority of the Membership Committee is certified to the Council as a candidate for ordinary membership. Approval by a majority of the Council constitutes election to membership in the Society.

Please use the following form to nominate candidates for membership.

Cut on dotted line and mail to Business Office, Mt. Royal and Guilford Avenues, Baltimore 2, Md.

NOMINATION FOR MEMBERSHIP

(Type or Print)

NAME _____ DEGREES _____
(Last name) (First name) (Initial)

PROFESSIONAL POSITION _____
ADDRESS IN FULL (to which publications should be sent)

*PROPOSED AND NOMINATED BY _____

ADDRESS _____

*SECOND NOMINATOR _____

Annual dues are \$12.00. Make remittance payable to Society of American Bacteriologists and mail to Business Office, Mt. Royal and Guilford Avenues, Baltimore 2, Md., U. S. A. Enclosure of dues with application will avoid delays in receiving the journals.

Membership dues are initiated and renewed as of January 1 each year. Unless directions to the contrary are received, membership applications received prior to November 1 will be credited to the calendar year, and back issues of the *Journal* and *Reviews* for the calendar year will be furnished. Applications received after November 1 will become effective on the following January 1.

*Members will please fill in these lines in writing.

Looking for a Bacteriologist

*Employers will find well qualified bacteriologists
registered with The*

**SOCIETY OF AMERICAN BACTERIOLOGISTS
EMPLOYMENT BUREAU**

For assistance on personnel needs write to:

SAB EMPLOYMENT BUREAU
Attn.: Dr. Milton J. Foter
Sanitary Engineering Center, PHS
4676 Columbia Parkway
Cincinnati 26, Ohio

Registry files are available to employers throughout the year. Use this
Society employment aid at no expense to your organization.

**IMPORTANT
NOTICE**

**EFFECTIVE
IMMEDIATELY**

*Your Journals cannot
follow you from your
old address to your new one*

Attention All Members

Formerly, as you may know, we redeemed from the postoffice all copies of the Journal of Bacteriology and Bacteriological Reviews that could not be delivered because the member had moved *and failed to notify us*. This was always expensive. Recent changes in the postal laws and regulations have combined with increases in postal rates to make the expense prohibitive.

Therefore we can no longer attempt to reclaim undeliverable journals. They will be destroyed by the postoffice. You will be able to replace them only by purchasing duplicates from the publisher—at the regular price of single issues.

What you can do about it:

FIRST: Notify us—the **Business Office**—60 days in advance of moving to your new address.

SECOND: Notify the postmaster at your old address, and guarantee that you will pay the forwarding postage. According to Postal Laws and Regulations, "When a change of address is other than a change of local address, and the addressee has filed a written guarantee either on Form 22 or otherwise to pay forwarding postage . . . the copies of the second-class publications bearing the old address shall be forwarded to the new address for a period of three months rated with postage due. . . ." After the prescribed three-month period, undeliverable copies will be destroyed.

Remember: we depend upon you to notify us of your new address. And we cannot always be sure of having extra copies available when you order them.

Don't let this happen to you. Your Journal is valuable to you. A missing issue will cause you inconvenience and possibly permanent loss.

Make sure of receiving every issue. *Notify the publisher 60 days before you change your address.*

SOCIETY OF AMERICAN BACTERIOLOGISTS

Mt. Royal and Guilford Aves.

Business Office

Baltimore-2, Maryland

Volume 6 January, 1958 Number 1

THE JOURNAL OF
HISTOCHEMISTRY
AND
CYTOCHEMISTRY

(Official Journal of The Histochemical Society)

CONTENTS

Angelo J. Ruggieri and Robert G. Brown: Localization of Histochemical Reactions in "Epithelial Tissues".....	1
Robert G. Brown and Angelo J. Ruggieri: Histochemical Reactions in "Epithelial Tissues".....	2
A. B. Novikoff and B. Masek: Histochemical Reactions in "Epithelial Tissues".....	3
R. A. Ellis and W. Montagna: Histochemical Reactions in "Epithelial Tissues".....	4
A. B. Novikoff and B. Masek: Histochemical Reactions in "Epithelial Tissues".....	5
R. A. Ellis and W. Montagna: Histochemical Reactions in "Epithelial Tissues".....	6
A. B. Novikoff and B. Masek: Histochemical Reactions in "Epithelial Tissues".....	7
R. A. Ellis and W. Montagna: Histochemical Reactions in "Epithelial Tissues".....	8
A. B. Novikoff and B. Masek: Histochemical Reactions in "Epithelial Tissues".....	9
R. A. Ellis and W. Montagna: Histochemical Reactions in "Epithelial Tissues".....	10

PUBLISHED BY
THE WILLIAMS & WILKINS COMPANY
410 North Enoch Avenue, Baltimore 2, Md., U.S.A.

THE JOURNAL OF
HISTOCHEMISTRY
AND
CYTOCHEMISTRY

R. D. LILLIE, *Editor-in-Chief*

Official Journal of The Histochemical Society

Contents of a recent issue:

Studies on Streptococcal Hyaluronidase and Antihyaluronidase. II. The Localization of Sites of Absorption of Streptococcal Hyaluronidase (Group C) with Fluorescent Antibody. E. W. EMMART, R. M. COLE, E. L. MAY AND J. B. LONGLEY

The Reduction of Tetrazolium Salts by Ascites Tumor Cells in the Presence of Glucose. T. BARKA AND G. DALLNER

Metachromasia Inhibiting Components in Amyloid. B. LARSEN

On the Incorporation of Methionine ³⁵S into Proteins Detectable by Autoradiography. J. L. SIRLIN

The Quantitative Reduction of 2,3,5-Triphenyl Tetrazolium Chloride by Skin *in Vitro*. F. B. HERSHEY, C. N. D. CRUICKSHANK AND L. I. MULLINS

The Usefulness of the Bromination Variant in the Feulgen Microspectrophotometry. T. BARKA AND G. DALLNER

Histology and Cytochemistry of Human Skin. XI. Sites of Phosphorylase and Amylo-1,6-glucosidase Activity. R. A. ELLIS AND W. MONTAGNA

Histochemical Demonstration of Branching Enzyme (Amylo-1,4→1,6-transglucosidase) in Animal Tissues. T. TAKEUCHI

Letter to the Editor. A. B. NOVIKOFF AND B. MASEK

Book Review

Books Received

Histochemical Titles from Current Literature

Subscription information: Published bimonthly. Subscription price per volume: \$8.00
Foreign postage: \$.75. Canada postage: \$.25. Volume 6 current in 1958.

THE WILLIAMS & WILKINS COMPANY

Baltimore 2, Maryland

Standing Notices

BACTERIOLOGICAL NEWS DEADLINES

Production of Bacteriological News requires about two months. Therefore, material intended for publication in the next four issues must reach the secretary's office by the following dates:

Deadlines

For April, 1959, issue—February 19, 1959

For August, 1959, issue—June 18, 1959

For November, 1959, issue—September 9, 1959

For January, 1960, issue—October 29, 1959

NOTICE

Please report change of address, non-delivery of journals, routine inquiries, and similar matters to:

Mr. FRANCIS C. HARWOOD
Business Manager, S.A.B.
Mt. Royal and Guilford Avenues
Baltimore 2, Maryland

CONFIRMED FUTURE MEETINGS

1959—St. Louis, May 10-14

1960—Philadelphia, May 1-5

1961—Chicago, April 23-27

1962—Kansas City, May 7-12

1963—Cleveland

IMPORTANT ADDRESSES

Program Committee

DR. RILEY D. HOUSEWRIGHT
Fort Detrick, Frederick, Md.

Chairman Local Committee, 1959 meeting

DR. NICHOLAS D. DUFFETT
32 Municipal Courts Bldg.
St. Louis 3, Missouri

Membership Committee

DR. DONALD E. SHAY
U. of Maryland
618 W. Lombard St.
Baltimore 1, Maryland

Committee on Materials for Visual Instruction

DR. HARRY E. MORTON
Dept. of Bacteriology
School of Medicine
U. of Pennsylvania
Philadelphia 4, Pa.

Committee on President's Fellowships

DR. ROBERT L. STARKEY
Dept. Agr. Microbiology
Rutgers University
New Brunswick, New Jersey

Employment Bureau

DR. MILTON J. FOTER
Robert A. Taft Sanitary Engineering Center
4676 Columbia Parkway
Cincinnati 26, Ohio

Plan now to attend the 59th Annual Meeting of
THE SOCIETY OF AMERICAN BACTERIOLOGISTS
Sheraton-Jefferson Hotel, St. Louis, Missouri • May 10-14, 1959

